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The Effect of Leader-Member Exchanges and Informal Networks on School Leadership: A Judgment Experiment of Teachers' Perceptions About Principal Leadership Qualities

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The Effect of Leader-Member Exchanges and Informal Networks on School Leadership: A Judgment Experiment of Teachers' Perceptions About Principal Leadership Qualities

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This work is dedicated to my daughters Grace and Emma.

Always know that you have within you the strength, courage, and intelligence

to achieve your greatest goals and aspirations.

“What if I can?”

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I am so very thankful for all of the outstanding people, teachers, leaders, and scholars who have traveled this incredible journey with me. You have all been a source of inspiration and encouragement. I am a better person, teacher, and leader having learned so much from each of you.

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ABSTRACT

Enlightened school leaders recognize that schools must be addressed as heteronomous professional organizations whose members are highly skilled and educated professionals who expect and demand agency in designing and carrying out the work of their school. School leadership must be both transformative and transactional; its success lies in the effectiveness with which the school leader participates in leader-member exchanges (LMX) and engages with the schools' social networks. 5 qualities of leadership that influence the effectiveness of school leaders were identified in the literature and included: (a) contribution; (b) loyalty; (c) affect; (d) professional respect; and (e) networking. Previous research has not considered the expert judgment of teachers regarding these factors. This dissertation represents an exploration of teachers' perceptions of effective school leadership. A social judgment analysis (SJA) with a mixed-effects, multilevel model was used to analyze responses to an anonymous online survey (N_{cases} = 212, $N_{observations}$ = 7,632), identifying the judgment preferences of Grades K-12 New York State public school teachers regarding the effectiveness of school principals as reflected in their leadership qualities. Analysis confirmed minimally statistically significant covariate interactions between teacher characteristics and the 5 leadership qualities. 6 distinct judgment models and 4 discrete leader themes were identified, confirming the existence of unobserved heterogeneity in teachers' judgment preferences. The final chapter discusses 10 paradoxes of school leadership and offers recommendations for resolving or reconciling them. The finding of this study can inform theory, policy, practice, and future research in the areas of effective school leaders and school building leadership.

Keywords: heteronomous professional organizations, leader-member exchange, school leadership, social judgment analysis, social networking, unobserved heterogeneity

CHAPTER ONE

BACKGROUND AND CONTEXT

Formal public school leadership in the United States, the cornerstone of public schools' and public school districts' operation and success, stands as an exemplary model of overall organizational excellence. For more than one hundred years school leadership has been charged with attending to the academic, social, emotional, and welfare needs of students, and the development and nurturing of staff, while simultaneously managing the ever fluctuating pressures from the external and "internal" environments (Alexander, 1997; Bonner, 1921; Edmonds, 1979; Johnson, 2007). Formally appointed school building leaders, particularly the school principal, span the boundary between the school and its external environment and create an environment within the school that cultivates professionalism and expectations for success for each of the stakeholders. As the course of public education has developed and changed in response to the needs and demands in the U.S. public and political realm, the hierarchical structure of school building leadership has evolved over time. The structure of the leadership hierarchy and specifically the role of formally appointed, public school leaders, have taken on increased importance and depth of responsibility and obligation to all those connected to and within the school-community.

Scott and Davis (2016) and Thompson (1967; 2008) discussed the theory of organizations, the uncertainty of "open systems," and the survival instinct of the organization functioning as an interdependent component of the external environment. With this acknowledgement, and the application of the theory of organizations, the organization is able to develop strategies and relationships to proactively address uncertainty and to allow specific areas

of the organizations to "operate in near certainty" (Thompson, 1967; 2008, p. 13) or the equivalent of the "closed system."

Scott and Davis (2016) proposed a "hybrid model" of organizations, inclusive of the role professionals play in the structure and function of organizations. This hybrid model combined attributes of both closed and open organizational systems, benefiting from the professionals' depth of knowledge and training within a hierarchical bureaucratic organizational structure. This "heteronomous" organizational type has the potential to secure the mutual success and longevity of the professional as well as the organization, maximizing the overall ability of the organization and organizational leadership to address and combat complex work expectations resulting from exposure to the uncertain influences of the external environment (Blau & Scott, 2003; Scott & Davis, 2016).

Open and Closed Systems Theories

Parsons (1960) discussed "open system theory" as the "necessary dependence of any organization on its environment" (Katz & Kahn, 1966, p. 13). The organization relies upon inputs from the environment to maintain function and production, while simultaneously working towards minimizing the disruptive forces and variables that the external environment places upon the internal organizational environment (Blau & Scott, 2003; Katz and Kahn, 1966; Scott & Davis, 2007; Thompson, 1967/2008). Scott and Davis (2016) "correct" this defense-oriented view of open system "self-maintenance" stating that, "This view is misguided and misleading, since interaction with the environment is essential for open system functioning" (p. 95). In an open system environment there exists "a set of interdependent parts which together make up the whole . . . each contributing something and receiving something from the whole" (Thompson, 1967; 2008, p. 6). In an open system it is understood that disorder and dysfunctions will occur

but the organization can respond to them and adjust as needed, to maintain the overall balance and equilibrium of the system (Blau & Scott, 2003; Katz & Kahn, 1966; Scott & Davis, 2007; Thompson, 1967; 2008).

"Closed system theory" depersonalizes and eliminates any possible entropy or influences from the external environment (Blau & Scott, 2003; Katz & Kahn, 1966; Scott & Davis, 2016)), as well as the uncertainty or disruption from external forces upon the organization. In doing so, the closed system is able to ensure functionality and control over production and the product (Thompson, 1967; 2008). In a closed system the organization and leadership have control over all variables, where all inputs and components of the organization contribute to the overall success and efficiency of achieving the organizational goals (Shafritz, Ott, & Jang, 2005; Scott & Davis, 2016; Thompson, 1967; 2008).

Bureaucracy as the Most Rational Form of Organization

"Bureaucracy is capable of attaining the highest degree of efficiency and is in this sense formally the most rational means of carrying out imperative control over human beings" (Weber, 1947, p. 337).

Weber's social and economic organization theory. In the early decades of the 20th century, Weber (1925; 1947) wrote that bureaucracy must be broken down into the simplest of tasks, establishing command and control, with segmented functions, administrative management, solid structure and non-negotiable rules. In Weber's bureaucratic model, the establishment of a chain of command, compartmentalization, specialization, clearly articulated rules and procedures, and the reduction of the scope of tasks to the simplest level should be applied in every generic organization. Weberian bureaucracy thrives on the existence of specifically defined roles and the separation of levels of management within the organization. Each

component of a bureaucracy and each role within the hierarchy are bound by rules and are established with distinct levels of expected competence (Shafritz et al., 2005; Scott & Davis, 2016; Weber, 1925; 1947). Bureaucracies exist to focus on staffing and structure with efficiency as their overarching goal. "Bureaucratic administration means fundamentally the exercise of control on the basis of knowledge" (Weber, 1947, p. 339).

Merton's dysfunctions of bureaucracy. Merton (1957) cautioned that while Weber's (1925; 1947) classical bureaucracy was the "ideal type" of formal organization, inherent in the expectations, structure, and functions of bureaucracies were unavoidable "negative aspects" which were summarized as follows:

- Trained incapacity, the "state of affairs in which one's abilities function as inadequacies or blind spots" (Merton, 1957, p. 201). Crediting Veblen, Merton (1957) warned of workers developing inappropriate responses and the inability to react to any "changed conditions" and thus "adopting wrong procedures" and leading to the "depersonalization of relationships."
- Occupational psychosis, which Merton (1957) credited Dewey, were developed "preferences, antipathies, discriminations, and emphases . . . put upon the individual by the particular organization of his occupational role" and could ultimately lead to a "fundamental ambivalence" related to the products and the goals of the organization.
- Displacement of goals, as Merton (1957) identified resulted from strict "adherence to the results," and an inflexibility that accompanied discipline and "conformance with regulations" that could ultimately result in an "unchallenged insistence upon punctilious adherence to formalized procedures" (p. 202) that undermine the intended organizational goals.

Merton (1957) stated that these negative aspects of bureaucracy were, in fact, the very reason that bureaucratic structures were "essential" to attain organizational goals. The internal "stresses and strains" on organizations emphasize the need for formalization to "prevent the disintegration of the bureaucratic structure," resulting in efficient productivity. Citing "increasing bureaucratization," Merton (1957) called for further empirical studies of the interaction of bureaucracy and personality to further understand the social structure.

Taylor's scientific management theory. Taylor's scientific management theory (1911) applied the components of bureaucracy to the concept of efficient production. At this point in history, the production of goods and productivity transitioned from that of skilled crafts people and guild workers' holding complete responsibility over production to the mass production of goods. This was in response to the need for a type of control and organization that could maintain the quality of the product for the most efficient organizational cost. The application of Taylor's (1911) theory addressed this need for organized economic efficiency of production and consistency of product. Organizations and managers (usually in the form of owners) must design a system to segment functions of tasks to the narrowest levels, which are easily replaceable and only challenge the worker within the operation to only carry out the simplified design. This economic and production efficient structure allows for improved, targeted, employee performance whereby the manager/owner is able to exercise controls over the production to ensure conformity of the employees and the overall product (Scott & Davis, 2016; Shafritz et al., 2005; Taylor, 1911). Scientific management theory ensures that the organizational goals are known and are clear to all, that tasks are repetitive, that resources are available, and that the production products "somehow disappear" (Thompson, 2008, p. 5) from the closed system environment.

Gulick's and Urwick's administrative management theory. Continuing to build upon the theories of bureaucracy and scientific management, Gulick and Urwick (1937) presented a system of administrative management that attends to the relationships between the absolute authority of the administrator, the efficiency of the employees, and the economic production costs. This conception of an administrative management system reflects a perception of organizations as what later came to be recognized as "closed systems" (Katz & Kahn, 1966; Shafritz et al., 2005), as elaborated below. Gulick and Urwick (1937) identified seven core functions of effective administration: planning, organization, staffing, direction, coordination, reporting, and budgeting (POSDCORB). They further asserted eight principles of administrative objectives: correspondence, responsibility, scalar (scale of authority), span of control, specialization, coordination, and definition. Administrative management theory groups employees into defined departments with delegated responsibilities, whereupon each department answers to a single designated administrator. This administrator possesses absolute authority and oversees the "master plan" (Thompson, 2008, p. 5). As with scientific management theory, administrative management theory assumes that all necessary resources are readily available and there is no mention of the final distribution of product. This is a central feature of the form of organization that was later to be labeled as a "closed system" (Katz & Kahn, 1966; Shafritz et al., 2005; Scott & Davis, 2016).

Fayol's general and organizational management theory. Fayol's (1917/1949) management theory, also focused on the type of organization that would come to be called a "closed system" (Katz & Kahn, 1966) environment. This theory contends that the assignment of employees to specialized tasks, the maximizing of human resources, and the establishment of discipline along with the authority of managers will ensure the unity and equity of the employee

group as well as overall organizational efficiency. Fayol (1917/1949) emphasized that managers must carry out six primary functions: (a) forecast and plan; (b) organize; (c) command or direct; (d) coordinate; (e) develop output; and (f) control. These functions were further delineated into principles of management that may be summarized as covering authority, discipline, the importance of chain-of-command, unity of direction, tenure of employees, efficacy, and the importance of a team-like atmosphere (Fayol, 1917/1949). So, like its predecessor theories, Fayol's (1917/1949) theory of general and organizational management continued and reinforced the perception of organizations as essentially independent of external forces in their environments.

Parsons's functionalism theory. Parsons (1960) translated the writings of Weber (1925; 1947) and wrote that organizations have three specific and distinct levels of responsibility and control: the technical level, the managerial level, and the institutional level. Between each of these levels, two-way communication is required to maintain functionality of the organization (Thompson, 2008, p. 10). The interplay between these levels establishes the efficiency of the internal organization, functioning in and affected by the organization's external environment. This was the first formal recognition in organization theory that organizations do not function in a vacuum but, rather, are influenced by and often disrupted by forces in their external environments. Parsons (1960) labeled this conception of organizations as "open systems," contradicting the traditional view of organizations as closed-off and insulated from their environments. He asserted that virtually all organizations are "open systems" (Parsons, 1960).

Parsons (1960) recognized the existence of sub organizations, within the formal organization, that impact the technical level (the employees) and their efforts to efficiently and successfully produce the desired product. Management, which occurs at the second level, must

attend to the needs and concerns of the technical level. The managerial level must provide the resources needed and also communicate with the consumer. It is the third level, the institutional level, which is responsible for establishing with the external environment the need and importance of the organizational product (Katz & Kahn, 1966; Parsons, 1960; Scott & Davis, 2016; Shafritz et al., 2005; Thompson, 1967/2008).

The organizational systems theory of Katz and Kahn. Katz and Kahn (1966) built upon the work of Allport (1954, 1962) and Parsons (1960). Allport (1954, 1962) viewed social and organizational systems as a series of interwoven, cyclical events that effect and influence the ongoing cyclical action, the organizational inputs, and the overall outputs of the social and organizational system (Katz & Kahn, 1966). Combining the event-structure theory of Allport (1954, 1962) and Parsons's (1951) writings on the interdependent roles and relationships of functional social systems, Katz and Kahn (1966) asserted the theory that all levels and organizational structures function in an open system that recognizes the influence of their external environments.

The relationship between the organization, the social system, and the external environment are in constant interplay to minimize the disorder that the actions of each have on one another and on the overall system. Katz and Kahn (1966) use two analogies to exemplify the manner in which systems input and output are adjusted and regulated in an open-system environment: (a) the "entropy assumption" (p. 9), which holds that all organizations gravitate to a disordered state, and (b) the Le Chatelier principal of chemical equilibrium where "any internal or external factor making for disruption of the system is countered by forces which restore the system as closely as possible to its previous state" (Katz & Kahn, 1966, p. 23). Therefore, the counterbalances taken by the organization, attending to the disruptive factors, are based upon the

individual and unique stresses that impact the organization and are intended to minimize entropy, maximize production, and maintain the overall equilibrium of the system.

Katz and Kahn (1966) credit von Bertalanffy (1950) for the basis of their conclusions. Applying von Bertalanffy's (1950) general systems theory to organization theory, Katz and Kahn (1966) adopted the general systems theory view of open and closed systems. That theory ties in to the overall use and conservation of energy, the efforts of the system to minimize entropy, and the ability of the open system structure to react accordingly. General systems theory supports the ultimate production of an equal product through several possible pathways; von Bertalanffy (1950) identified this phenomenon as the "equifinality principal" (Katz & Kahn, 1966; von Bertalanffy, 1950; Scott & Davis, 2016).

As organizations function as open systems, there is still a need for regulation and structure. Katz and Kahn (1966) pointed out that the need for structure stems from the need to confront the variability of both the external and internal environment. Structure can be established through a variety of organizational "control pressures" (p. 36), and must be combined with the cultural norms and established behavior patterns of the group to ensure organizational efficiency and overall success (Katz & Kahn, 1966). Scott and Davis (2016) pointed out that structure and boundaries are a vital component of open systems, and the organization must "expend energy in boundary maintenance" (Scott & Davis, 2016, p. 95). The caveat that they add, however, is that the boundaries are dynamic and may be arbitrarily established, enclosing the actions and behaviors of the individuals and the professionals, and not the people themselves. "Boundaries must be sieves, not shells, admitting the desirable flows and excluding the inappropriate or deleterious elements" (Scott & Davis, 2016, p. 151).

Thompson's contingency theory of organizational management. Thompson's contingency-based management theory (1967/2008) contends that all organizations are open systems. As open systems, organizations must have structures and sub-groups in place for the internal organization to adapt to the influences and impacts of the external environment. Organizational leaders play the key role in insulating the core functions of the organization from potentially disrupting fluctuations in its environment. This enables the technological cores of their organizations to operate as if they were closed systems in an effort to maximize efficiencies (Scott & Davis, 2016; Shafritz et al., 2005; Thompson, 2008). This occurs through several notable functions.

In the first function the leader serves is as a boundary spanner who exists simultaneously in both the environment and organization. Through the continuous process of environmental scanning and feedback, the leader as boundary spanner senses current environmental fluctuations and forecasts future fluctuations. With that information and feedback, the leader is able to buffer the technological core from environmental fluctuations by adjusting to both the availability of resources and market demand for the organization's products. To adjust for shortages in available resources from the environment, leaders stockpile resources in the organization. To adjust for market fluctuations in the demand for the organization's products, leaders warehouse outputs until such time as market demand has increased (Blau & Scott, 2003; Scott & Davis, 2016; Shafritz et al., 2005; Thompson, 2008). As Thompson (2008) explained, "Whereas buffering absorbs environmental fluctuations, smoothing or leveling involves attempts to reduce fluctuations in the environment" (p. 21). When all else fails, leaders revert to what Thompson (2008) labels the "unhappy solution" (p. 23). That is, when buffering, smoothing, and leveling

are not sufficient to insulate their core operations, “organizations under norms of rationality resort to rationing” (p. 23).

Figure 1.1 visually depicts the process through which leaders insulate the core technologies of their organizations.

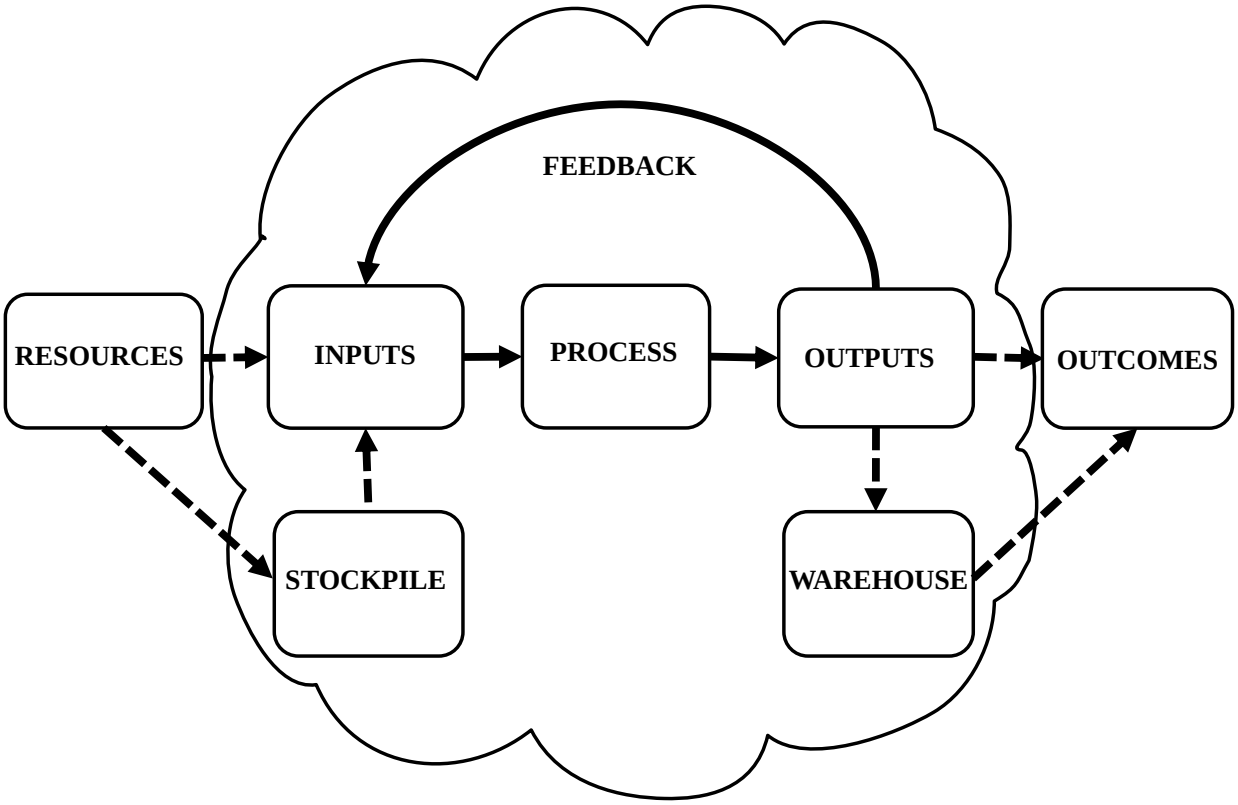

Figure 1.1 Organizational systems flowchart. Adapted from Katz and Kahn, 1966; Parsons, 1960; Scott, 1982; Scott & Davis, 2016; and Thompson, 1967/2008. “Organizations are flagrantly open systems that the input of energies and the conversion of output into further energetic input consists of transactions between the organization and its environment” (Katz & Kahn, 1966, p. 17).

Thompson (1967/2008) built upon the research and writings of Parsons (1951, 1960) and offered a resolution for identifying, understanding, and harnessing the potential of both the

closed and open systems to maximize organizational performance while minimizing and planning for bureaucratic dysfunction. Seeking to understand the behavior of organizations, Thompson (1967/2008) further developed Parsons's (1960) organizational hierarchy production, managerial, and institutional levels to create a dichotomy of technical, administrative, and organizational positions. Thompson's (1967/2008) theory applies the rational, closed-system, bureaucratic approach to organizations with an expect-the-best ideology, while planning for and expecting uncertainty (Scott & Davis, 2016; Shafritz et al., 2005; Thompson, 1967/2008). His theory views the organization through a natural, uncertain, and informal, open-system lens that acknowledges the serendipitous impact that the external world has on all systems, and, therefore, also embraces a reactionary, plan-for-the-worst, ideology.

Scott's view of the influence of the social dynamics in organizations. Blau and Scott (2005) and Scott and Davis (2016) analyzed the importance of human conduct, behaviors and interactions, cultural norms, group think, feelings of respect, admiration, and even anger; asserting that these phenomena form the structural framework of the social dynamics of an organization. Organizational structure and organizational leadership then function in response to the social dynamics and the "social organization" (Scott & Davis, 2016, p. 23), which has come to be recognized as the social network.

Scott's view was that "the group is more than the sum of the individuals composing it since the structure of social relations is an emergent element that influences the conduct of individuals" (Blau & Scott, 2003, p.3; Shafritz et al., 2005, p. 204). In this way, naturally emergent social relationships provide a platform for analyzing and understanding the patterns, styles, qualities, behaviors, and actions of organizational leaders as they interact with, manage, supervise, and provide leadership within the overall organization. Blau and Scott (2003)

specifically identify the importance of the emergence of informal organizations that develop and obtain social organizational power in reaction to the bureaucratic structures, rules, and practices imposed by the formal organization. This informal power defines the formal organization and thus the two should not be considered separate entities, but in fact the one overall organization (Blau & Scott, 2003).

> It is impossible to understand the nature of a formal organization without investigating the networks of informal relations and the unofficial norms as well as the formal hierarchy of authority and the official body of rules, since the formally instituted and the informally emerging patterns are inextricably intertwined. (Blau & Scott, 2003, p. 6)

As Blau and Scott (2003) reflected upon Weber's (1925/1947) bureaucracy and Taylor's (1911) scientific management, they assessed homogeneous group cohesiveness and "solidarity." In particular, they focused on Roethlisberger and Dickson's 1939 Chicago Western Electric Company Hawthorne studies and specifically on the "Bank Wiring Observation Room" (Blau & Scott, 2003, p. 91) as exemplars for group norms, relations, and behaviors.

The role of the formal organizational leader, "legitimized by legal contract" (Blau & Scott, 2003, p. 140), demands that attention be given to the bureaucratic foundation of the organization and the rules, policy, operations, discipline, and efficiency that accompany such bureaucracy. Cautioning a "limited formal authority," Blau and Scott (2003) stressed the ideals of leadership styles and influence that are unique to each organization and role. These leadership styles and forms of influence attend to the informal social norms and security of the group, in order to cultivate and accrue the respect, trust, and loyalty of the social network.

Effective leaders are "responsible for making character-defining decisions, … for defending the integrity of the institution against internal changes and external attacks, and for maintaining control over internal conflicts" (Blau & Scott, 2003, p. 165). To the extent that leaders are effective in buffering their organizations from the "adverse influences" of the environment, they earn and reinforce the loyalties of those whom they lead (Blau & Scott, 2003). The results of effective leadership can therefore be measured in trust, increased performance, worker solidarity, and overall organizational success.

The integration of professionals into the organization establishes the need for an alternative to bureaucratic leadership style. Blau and Scott (2003) pointed out the need for a "rational administration" that would respond to a work force with a high level of specialization, skills, education, training, and expertise. This is the form of leadership in organizations that Scott has labeled "professional organizations" (Scott & Davis, 2016, p. 147).

Scott's theory of "professional organizations" and the distinct leadership environment they create. While the draconian style of hierarchical, potentially punitive, and disciplinary supervision is not compatible with a professional workforce, the incorporation of bureaucratic components and a bureaucratized organizational structure have the potential to benefit both the professionals and the overall organization. The mutually favorable results are achieved when leadership is implemented in a manner that respects and capitalizes on the expertise and competence of the professional, while providing the safety, certainness, and environmental buffering of the bureaucratic structure (Blau & Scott, 2003; Scott & Davis, 2016). These common principals, are rooted in "universal standards, rational judgment, specialized competence, and achieved status" (Blau & Scott, 2003, p. 245). They provide a foundation for

the successful integration of professional organizations in the context of a bureaucratic framework.

Blau and Scott (2003) identified four important, contrasting aspects of professional organizations and bureaucratic frameworks. A natural tension emerges from: (a) the "organizing principles" of the professional code of ethics and norm of service as compared to bureaucratic organizational interests; (b) leadership authority stemming from the professional's expertise versus the bureaucratic legal contract; (c) the use of professional standards as compared to "disciplined compliance" for guided decision making, and; (d) the ultimate power residing in the hands of the bureaucratic supervisor, distinctly different from the review procedures of professional colleagues and advisory boards (Blau & Scott, 2003).

Scott's models of leadership and control in professional organizations. Scott (1982) identified three models of organizations where the majority of the work is performed by professionals. He labeled those three, distinct models of leadership as "autonomous, heteronomous, and conjoint" (p. 213). Autonomous organizations include licensed professions which empower the professional individual and the professional peer groups to determine, set, define, implement, and monitor behaviors for achieving goals and establish evaluative measures for attaining these goals. In autonomous organizations, administrative control is minimal to non-existent, and its sole purpose is to provide support and maintenance to the professional staff.

Heteronomous organizations provide a bureaucratic structure of protocol, policy, and rules, which govern the work and accountability of the professionals. This structure honors the specialization of professionals and offers structure, support, and efficiency. On the other hand, this heteronomous model must also implement constraints on their decision-making powers, as well as establishing their dependence on the institution for salary and for the allocation of their

involvement in decision making (Scott, 1965; 1982). Heteronomous organizations may be more advantageous for the overall "greater good," ensuring the equality for the whole in a closed system environment, supported by administrative buffering, over the subjective power of the individual who may be influenced by the open system environment (Scott & Davis, 2016). Scott (1982) underscores that as the professional work becomes increasingly specialized and the work staff qualifications increase accordingly, the bureaucratic hierarchy must respond, in turn, with managers' serving as conduits for the transmission of information and improving decision making.

The third model of professional organizations, as theoretically described by Scott (1982), is the "utopian" conjoint professional organization whereby professionals and administration are equal in power, "coexisting in a state of interdependence" (Scott, 1982, p. 230). In this idealist model the workers are free and supported to attend to the micro level of care and responsibility, wherein administrators and leaders focus on the macro level of organizational responsibility. The conjoint professional organization is described as "pluralist" in nature (Scott, 1982) "whereby the organization does not wholly absorb the professionals, nor do professionals wholly absorb the organization" (p. 232). With multiple power centers, similar to those found within informal and formal organizations, the pluralistic conjoint model is reflective of the informal leadership structure of the social network.

Blau and Scott (2003), Scott and Davis (2016), and Thompson (1967/2008) all articulated the reality that the combined bureaucratic, organizational, open and closed systems components do not rely entirely on the formalized organization per se. Rather, they argued, the organizational systems created by these components must recognize, tap into, and promote the strengths of the professionals and individuals within the organization. Their research

underscored the fact that an organization's overall success depends upon several factors. Those factors include the strengths of the social networks, the roles individuals' play, the skill set and knowledge of the professionals within the organization, the interactive dynamics of groups, and the ability of individuals to interact within and between organizational levels, while informally establishing and responsibly attending to their formal job requirements.

Blau and Scott (2003) and Scott and Davis (2016), in conjunction with Thompson's (1967/2008) work, provide the overall theoretical framework that guided the research in this dissertation. A more extensive treatment of the critical ideas, which the contingency theory of organizational management, the integration of professionals, and understanding of organizational social networks comprise, is therefore, suffused throughout the remainder of this and the subsequent chapters of this dissertation.

The Importance of Organizational Structure to Organizational Success and Leadership

Structure becomes the operative word in the overall analysis of organizational success and leadership. It is the inevitable result of leaders, administrators, and professional staff working together for a common purpose and goal. Defined responsibilities and professional roles provide consistency and clarity, and also create an understanding of boundaries. The structure these roles provide facilitates communication and underscores individual and whole group obligations. A solid leadership structure is, therefore, a key component for all organizations. As the chemical molecular structure determines the ultimate strength and function of the compound, exemplified in the specific bonding of carbon atoms creating graphite or diamonds, the foundational structure and strength of the organization are determined and reliant on the bonding of leaders, administrators, and professional staff, based upon their behaviors and actions (Scott & Davis, 2016) within the construct of the organization.

The containment of roles within an established closed system organizational structure (Blau & Scott, 2003; Katz & Kahn, 1966; Parsons, 1951, 1960; Scott & Davis, 2016; Thompson, 1967/2008) is intentionally restrictive. However, while the organization operates in an open system environment, a purposeful and thoughtfully restrictive internal environment provides optimal conditions for success; this feature controls volatility and reactivity to ensure that each component can perform to its best ability. An uncontrolled internal environment would otherwise lead to "entropy" (Katz & Khan, 1966; Scott & Davis, 2016), "energy that can't be turned into work" (Scott & Davis, 2016, p. 96) and, ultimately, the demise of the organization. This concept can be illustrated by the volatility of liquid nitrogen. Even though this chemical offers tremendous benefits for both medical and physical technology, it can present a tremendous hazard when left uncontained. The closed system of the internal organizational structure is equivalent to the manner in which liquid nitrogen can be safely transported and stored in an insulated container for safe and controlled reactivity at the desired time and location. The open system provides balance to increasing entropy by absorbing manageable work energy from the environment and restoring the balance of structure and routine (Scott & Davis, 2016; von Bertalanffy, 1969).

Organizational Bureaucratic Structure and Leadership

Organizational bureaucracy and hierarchical organizational charts identify individuals as formal leaders, but in essence they are really signifying the formal roles and authority of "managers" (DeRue & Ashford, 2010; Spillane & Joullie, 2015). In contrast to management and supervision, leadership and the formal title of "leader" reflect "a state of being that people can enter into irrespective of their formal role or position within an organization" (DeRue & Ashford, 2010, p. 627).

Leadership is contextual, dynamic, and must be earned as the result of the interactive, trust-based relationships that emerge and exist between members of an organization (Blau & Scott, 2003; Fiedler, 1978). The identification and the study of these hierarchical relationships ("Not hierarchy in the sense of status or power differences, but hierarchy as a mechanism of clustering" [Scott & Davis, 2016, p. 97]) have the potential to provide valuable data for analysis and insight into the organic, emergent, leadership of the organizational network. Individuals who have been identified as formal leaders are well served to understand, acknowledge, work with, and to establish themselves as strategic, interactive, central components of their organization's social network (cf., Blau & Scott, 2013; Collinson, 2006; DeRue & Ashford, 2010; Meyer & Rowan, 1977; Scott & Davis, 2016; Spillane & Joullie, 2015; Van Vugt, Hogan & Kaiser, 2008).

Social Networks as Informal Organizations Within Formal Organizational Frameworks

Within the formal organizational frameworks and structures discussed above there also exist naturally emerging, informal organizational systems in the form of social networks. As Carter et al. (2015) and Scott and Davis (2016) explained:

> Social networks are the patterns of interpersonal relationships (i.e., ties) among a set of people. Social network approaches offer [a] theoretical rationale for understanding the development and utility of relationships, as well as a set of analytic tools designed to identify, describe, and explain relationships. (Carter et al., 2015, p. 598)

The study of relationships and the resulting identification of leaders within the social networks of a formal organization offer two major perspectives for analysis: (a) social network theory, analyzing how individuals in the social networks cluster and emerge as leaders and their leadership within the existing social networks; and (b) the theory of social networks, a

contrasting study of the structure and nature of the overall network itself, with the associated individuals and identified leaders creating and participating in the actual network (Blau & Scott, 2003; Borgatti, Everett, & Johnson, 2013; Burt, 1995; Carter et al., 2015; Daly, 2015; Kadushin, 2012; Kilduff & Krackhardt, 2008; Scott, 2005, 2013; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994; Yang, Keller, & Zheng, 2017).

When analyzing a social network to identify the naturally emergent leadership within an organization, Carter et al. (2015) and Scott and Davis (2016) stress that leadership must be perceived as a "relational phenomenon" with four main characteristics:

- Relational, only existing as a direct result of the relationships between identified leaders and the skills, behaviors and actions of the followers (Blau & Scott, 2003; Borgatti, Everett, & Johnson, 2013; Burt, 1995; Carolan, 2014; Carter et al., 2015; Daly, 2015; Farley-Ripple & Buttram, 2013; Granovetter, 1972, 1983; Kadushin, 2012; Kilduff & Krackhardt, 2008; Scott, 2005, 2013; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994; Yang, Keller, & Zheng, 2017);
- Situational, in both social and historical context, flowing and evolving as the context of the situations and relationships change and morph over time (Blau & Scott, 2003; Fiedler, 1978; Scott, 2005, 2013; Scott & Davis, 2016);
- Patterned, based upon the relationships between leaders and followers, in a manner similar to those found in Leader Member Exchange (LMX) studies (Sparrowe & Liden, 1997, 2005) and;
- Homophily, whereby leaders favor certain subordinates over others and similar individuals associate with others like themselves (Balkundi & Kilduff, 2006; Borgatti, Everett, & Johnson, 2013; Burt, 1995; Carolan, 2014; Carter et al., 2015; Daly, 2015;

Farley-Ripple & Buttram, 2013; Granovetter, 1972, 1983; Hill & Martin, 2014; Kadushin, 2012; Katz & Kahn, 1966; Kilduff & Krackhardt, 2008; Prell, 2012; Scott, 2005, 2013; Thompson, 1967/2008; Valente, 2010; Wasserman & Faust, 1994; Yang, Keller, & Zheng, 2017).

These relational phenomenon are based upon established relationships and established leadership between formally appointed leaders and the informal leadership that emerges, morphs, and continuously reemerges from the social networks (Balkundi & Kilduff, 2006; Burt, 1995; Carolan, 2014; Carter et al., 2015; Kilduff & Krackhardt, 2008; Krackhardt, 1992; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994).

At its basic level, the analysis of a social network seeks to answer one overarching research question: What are the causes and consequences of social network relationships (Borgatti et al., Burt, 1995; 2013; Carolan, 2014; Carter et al., 2015; Daly, 2015; Kilduff & Krackhardt, 2008; Prell, 2012; Valente, 2010)? Relationships between actors in the social network create social interactions and implications for the individuals, and groups of individuals, within the network as well as creating social relationship patterns that emerge and exist within the internal organization. "The power of the [social] network concept is that is provides a mechanism by which disparate parts of a system may affect each other" (Borgatti et al., 2013, p. 2). Leadership awareness of the social network serves as a vehicle that can measure, visualize, and analyze the social relationships within the social network with no disruption to the individual's status and location within the social network (Carolan, 2014).

There are several key roles within the social network dynamic. Key players within the network are often identified as having "network centrality" (Burt. 1995; Daly, 2015; Fredkin & Slater, 1994; Prell, 2012; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994). An

individual's central position within the network can be attributed and established through various means: the number of connections that one individual has to the others in the network (or the number of connections held by those with whom the individual connects), the proportion of these connection ties as compared to the number of ties that others within the network possess, the ties with which the individual and professional connect to others within the network, and the location of the individual in the chain of communication and ties to others in the network.

Individuals identified as "central" within the social network are important to the transmission of information, integral to the flow of formal and informal communications, and capable of establishing and/or persuading the social network ideology and paradigm. These central players in the social network are not necessarily the individuals who are formally identified or officially titled as leaders within the organization (Valente, 2010). These emergent leaders evolve through a natural, organic process (Velastegui, 2013). The emergent leadership is recognized and established, often fluid and dynamic, as these individuals present and exhibit character traits that the network identifies as valuable to the overall social network and to the benefit of individuals within the network (Scott & Davis, 2016).

Identifying, accessing, and working with the naturally emergent, informal, social network leadership can be crucial for becoming, surviving, and thriving as a formal organizational leader. It is vital that the formally identified leader recognize and understand "the power of centrality in determining events and the importance of knowing who is central when you are trying to get things done" (Borgatti, Everett, & Johnson, 2013, p. 163). Leaders use this knowledge to inform and implement decisions with discretion as they pertain to the overall organization (Scott & Davis, 2016; Thompson, 1967/2008, Valente, 2010).

Individuals within social networks are often referred to as "actors." The ties between the social network actors contain the power of the network and are based upon the relationships that do, or do not exist (Valente, 2010). The strength of the bonds and ties between the actors in the social network are analogous to the manner in which chemical compounds bond, react, or remain stable based upon their individual characteristics, as well as their inclination and propensity to form more complex groups. The direction of the ties and the strength of the ties within the social network (Balkundi & Kilduff, 2006; Granovetter, 1972, 1983; Kilduff & Krackhardt, 2008; Krackhardt, 1992; Valente, 2010; Wasserman & Faust, 1994) can indicate the transmission of information as well as the depth and strength of the relationships between the actors in the network. Individual actors within the social networks may also emerge as positioned in key roles for communication within, among, and between the social network(s) (Balkundi & Kilduff, 2006; Borgatti et al., 2013; Carolan, 2014; Farley-Ripple & Buttram, 2013; Granovetter, 1972, 1983; Scott, 2005; Scott & Davis, 2016; Valente, 2010).

Based upon the key positions of individuals within the social network, various titles are used to identify an actor's role and possible leadership status within the network:

- Central actors, individuals who are densely connected to many others within the social network;
- Bridgers, individuals who are a part of and connect clusters of other small groups of individuals within the social network;
- Brokers, individuals who manage relationships between different small groups within the network
- Isolated actors, individuals with minimal connections and relationships to others in the social network; and

- Those who fill structural holes (Burt, 1992, 1995), thus linking individuals and groups of individuals that would otherwise not be connected.

These network role types are components and indicators of the emergent leadership within a social network (Borgatti et al., 2013; Burt, 1995; Carolan, 2014; Farley-Ripple & Buttram, 2013; Granovetter, 1972, 1983; Hoppe & Reinelt, 2010; Kalish, 2008; Scott, 2005, 2013; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994).

The identification, understanding, and the building of relationships between the informal social network emergent leaders and traditional formally appointed leaders can be analyzed and explored in-depth, and within context, to establish new insight and understanding of the heteronomous organization (Scott & Davis, 2016) and the potential for the realization of the ultimate synergy and effectiveness of organizational leadership. Social network theory, the theory of social networks, and the analytic approaches and measures used in visualizing and understanding social networks will be discussed in greater detail in the subsequent chapters in this dissertation.

Leadership in Public Schools as Heteronomous Professional Organizations and Social Networks Within Bureaucratic Frameworks

With this general background as context for envisioning and understanding heteronomous professional organizations and the social networks within them, this section applies those generic perspectives to the specific case of public school organizations, their bureaucratic frameworks, and school leadership. The following discussion describes the traditional hierarchical, heteronomous structure and bureaucratic operational functions that have characterized public school organizations and leadership since the early 1900s.

Public Schools as Heteronomous Professional Organizations Operating Within Bureaucratic Administrative Frameworks

Public schools are commonly described as bureaucracies with the entire attendant dysfunctions of bureaucracy (Merton, 1957) discussed above, but, in my view, this is an incorrect and over-simplified characterization of the organizational systems in U.S. public schools. Public schools are more accurately described, I argue, as heteronomous professional organizations (Scott & Davis, 2016) that operate within bureaucratic administrative frameworks. That is, public schools recognize the special nature of their organizational systems, which are characterized by a fundamental dependence upon the expertise of professional staff. At the same time, such heteronomous professional organizations still require an administrative framework for avoiding chaos in planning, organizing, staffing, directing, coordinating, reporting and budgeting (POSDCORB, as coined by Gulick & Urwick, 1937).

The administrative framework adopted in virtually all public schools is a bureaucratic framework for administration, and this creates the illusion of public schools as bureaucracies in which the staff are not afforded a role in shared governance or decision making. In practice, however, public schools operate administratively as bureaucracies but function in all other respects as heteronomous professional organizations in which leaders interact with professional staff, and for academic and other non-administrative purposes, share power (as distinct from "authority"). In this context, in order to be effective school leaders must cooperate, coordinate, and collaborate with their professional colleagues, who also make up the naturally emerging social networks that exist within the formal school organization.

The seeming paradox of open system organizations operating as closed systems, as described for organizations in general by Thompson (1967/2008), is clearly observable in the case of public schools. Today's public schools are structured as administrative bureaucracies envisioned as closed systems, even though school leaders and other educators are well aware that

schools operate as open systems in the form of heteronomous professional organizations that are subject to and continually influenced by their external environments in the sense described initially by Parsons (1951; 1960) and subsequently elaborated by Blau and Scott (2003), Katz and Kahn (1966) and Scott and Davis (2016). This creates an apparent paradox in that schools were designed to operate as closed systems but exist in an open systems reality. This paradox can be understood and resolved through Thompson's (1967/2008) conception of "organizations in action" and by Scott and Davis (2016). These authors explain how the core functions of organizations in general can be insulated from the potentially disruptive forces of their external environments through such leadership functions as boundary spanning and environmental scanning; buffering, smoothing and leveling; and, as a last resort, rationing. These functions are clearly apparent in the organization and operation of public schools.

Public schools present the key characteristics of commodity-driven, factory-based, bureaucratic models that operate as if they were closed systems. They are, however, open systems subject to the influence of both their internal and external environments and are only able to perform with closed system efficiencies as a result of the boundary spanning and buffering functions provided by their leaders. School leaders accomplish these critical functions by interacting with both the internal environments (e.g., social networks, unions, etc.) and external environments (e.g., school boards, communities and community organizations, political and legal systems, etc.) of their schools while relying upon a bureaucratic administrative framework for harnessing and directing the resources and energies of their professional staff.

Leading Public Schools as Complex, Open Systems That Operate as "Closed Systems"

Traditionally school leadership has been viewed in two broad domains, relations with the external environment of the school (acknowledging the school as an open system) and the

operations of the internal, core organization (treating the educational and managerial processes of the school as if they were a closed system largely independent from the environment). The functions of leaders with regard to the external environment tend to focus on community relations and the social, economic, political, and legal constraints and challenges imposed by the environment (e.g., Blau & Scott, 2003; Fullan, 2011; Katz & Kahn, 1966; Scott & Davis, 2016; Spillane & Joullie, 2015; Van Vugt, Hogan & Kaiser, 2008). With regard to leadership within school organizations the functions of school leaders have typically been viewed as managing and controlling the internal operating organization, often treating the internal operations of schools as if they were closed systems.

Public schools led by formally appointed administrative leaders, working in conjunction with the internal school organizations, must provide the structure and the formalized organizational system to build solid foundations of knowledge, strength, and character, for the millions of students educated and graduated by the U.S. public schools each year (U.S. Department of Education, 2016). The external environment pressures formal school leaders to raise internal expectations, to surpass previous achievement goals, and to increase productivity of the school organization. These challenges are addressed, to varying degrees of effectiveness, through individual school leaders working with and for the overall school organizational team.

Efficient school leadership is as much about undefined boundary spanning and buffering between formal and informal organizational networks as it is about defined boundary spanning and buffering between unions and the external environment (cf., Blau & Scott, 2003; Scott & Davis, 2016). The essence of effective organizational and school leadership is the relationships, the interactions, and the communications that occur in the white spaces between the proverbial boxes on the organizational chart.

The Legacy of Organizational Structure and Leadership in Public Schools

Compulsory public education and public schools were developing and becoming institutionalized just as the industrial revolution was occurring and at about the same time as the early organization theorists were propounding their essentially closed system views of bureaucracy and scientific management. As a result, the organizational structure of public schools today still reflects the legacy of its origins.

The writings and theories of Weber (1925; 1947), Taylor (1911), Fayol (1917/1949), and Gulick and Urwick (1937) are each reflected in the factory model of the structure of United States public schooling over the past century. These pivotal organizational theories, emanating from the industrial era of U.S. history, presented ideals, characteristics, and practices that would theoretically maximize efficiency and productivity for private and public organizations, including public schools.

Public school organizations crystallized in the early 1900s with the industrial revolution. The evolution of public schools administrative systems and frameworks stopped with the factory model structure. While the organizational and educational theories continued to grow and develop, recognizing open system environments of organizations, schools still function predominantly in a factory model administrative structure. This hierarchical bureaucratic administrative framework was one factor in the formation of organizational unions in public schools. These unionized, internal sub-groups were established and coexisted with the social network. Together, they comprised the internal, closed system of public schools, operating within an open system external environment.

Public schools throughout the 1900s, pressured by the demands of a growing population and growth of industry (Pulliam & Van Patten, 2013), found that they could no longer function

as the one-room, one teacher, school house. It became increasingly challenging for the teacher, as the designated scholar, to teach and attend to the multitude of individual student needs and abilities, while simultaneously educating all students contained in a single classroom. Public school teachers and school administration evolved over the past century to become part of a larger entity. The early 1900s saw the establishment of several education associations and professional educational decision-making organizations. The National Education Association was granted a charter from Congress in 1905 and became the key determinant in establishing educational pedagogy, standards, course requirements, adoption of Carnegie units, graduation requirements, and the definition of unified comprehensive schooling (Pulliam & Van Patten, 2013). The development of public high schools, normal schools, and colleges was accompanied by formalized teacher training and established administrative expectations and responsibilities (Pulliam & Van Patten 2013).

Contemporary Post-Industrial Public School Organizations and Leadership

In the post-industrial era, public schools have evolved to take on an organizational structure and bureaucratic administrative framework that coordinates the work of teachers and other professional educational staff with the managerial and leadership efforts of school administrators (i.e., departmental chair persons, principals, and superintendents). Public schools have taken on the formal responsibility to educate and produce, for minimal cost and maximum efficiency, large numbers of students as an identical and equivalently educated population. Individual education has been replaced by mass instruction by professionals delivered to a chronological-age-based cohort group that adheres to standardized curriculum and assessments and focuses on the attainment of generalized course credit for all students.

Cooperation and the Formation of Coalitions in Public Schools

The interaction of collective bargaining units and formal public school organizations has been the subject of ongoing research (e.g., Aldrich & Herker, 1977; Anderson, 1982; Blau & Scott, 2003; Darling-Hammond, Wise, & Pease, 1983; Pil & Leana, 2009). However, the relatively small number of studies addressing the informal social network and the resulting leadership coalitions is an area of relatively untapped potential. One effective strategy for meeting the goals and objectives of the overall school organization involves the combination of the organization's material resources, its human capital (Fullan, 2011), and the relationships established between the formal and the social network emergent leadership of the organization (Spillane & Joullie, 2015; Thompson, 1967/2008). The bureaucratic administrative framework adopted by most U.S. public schools has often conflicted with the challenge of relating the formal organization to the social networks which exist within formal school organizations.

Formalized school leaders work in conjunction and collaboration with collective bargaining units to establish the parameters for efficiency, task expectations, and organizational policy. These collaborative and interactive organizational relationships foster and sustain communication, understanding, and trust between the social network and the formal organizational leadership, which are the key components of organizational efficiency, productivity, and success (Blau & Scott, 2003; Katz & Kahn, 1966; Thompson, 1967/2008).

The potential for the misuse of assigned formalized power, as well as with the legitimized and the network social relationship emergent power, is always a concern (Blau & Scott, 2003; Emerson, 1962; Katz & Kahn, 1966; Spillane & Joullie, 2015; Thompson, 1967/2008). As a result of this apprehension, formal and informal coalitions may arise. Unions were created and have evolved to collectively monitor and place limits on the expectations and the application of legitimized power exercised as formal authority under bureaucratic administrative frameworks.

The relationship between formal leadership and formalized unions creates a system of checks-and-balances. This relationship serves to reduce the uncertainty of expectations, to set clear boundaries, to act as an additional boundary spanner in order to buffer the effects of the external environment in public schools, and to help maintain the homeostasis of their internal environment (cf., Katz & Kahn, 1966; Scott & Davis, 2016; Thompson, 1967/2008).

Re-envisioning School Leadership: Leading in a Heteronomous, Professional, Open System Comprising Both Formal Administrative and Informal Social Structures

The fundamental premise of this dissertation is that school leadership must be re-envisioned to move beyond the conception of public schools as organizational bureaucracies and closed systems in which power derives from formal titles and authority. This study was premised on the view that traditional leadership styles (to be discussed in detail in the next chapter) must incorporate a new or deeper awareness of the social networks that exist in schools and other organizations—especially heteronomous professional organizations. It is critical that school leaders actively exhibit a recognition of the social networks that form the internal environments which they must also span and buffer and with which they must collaborate. As discussed in the next chapter, neither of the two major leadership styles that form traditional leadership theory address the importance of recognizing and interacting with the social networks that exist in virtually all organizations, including public schools.

The key elements of effective school building leadership include the formal school building leader's ability to understand, identify, and access the professional, social, and human capital of the internal closed-system environment of the school. These leadership elements have even greater value within a school organization considering that all aspects and products of the school organizational environment are based upon the interactions of those with administrative power and authority and those professionals (e.g., teachers and other professional educators and

staff) who lack formally assigned authority but exercise power though their expertise and their roles in the informal social network.

The recognition and awareness of the internal social network becomes a conduit for school leaders to assess and identify the human capital resources present within the school building environment. A detailed study of the organizational social network can reveal the skills, experiential knowledge, professionalism, and social capital resources contained within the organization. A socially aware leader has the ability to tap into and to access these resources for the overall benefit and collective efforts of the school organization.

The attainment of the school organization's goals can be facilitated when the public school leader is able to effectively boundary span and to buffer between the various social network and organizational entities. The school leader, in these strategic network positions is able to minimize the inherent dysfunction of the bureaucratic environment, successfully manage the open system school community environment factors (Katz & Kahn, 1966; Parsons, 1951, Parsons 1960; Scott & Davis, 2016; Spillane & Joullie, 2015; Thompson, 1967/2008), and garner support to maximize the functions of the internal, closed-system, organization.

The synergy of the relationships between the formalized school leadership and the emergent leadership of the social network have the potential for tremendous structural and emotional supports for the overall organization. This synergetic power stems from a combined effort of attending to the internal and external environmental chaos on the school building and professional staff, increased transparency and confidence in the organizational decision-making processes, heightened awareness and trust in the collectively established vision and mission of the school, and an affirmed solidarity for attending to the overall goals of the school organization.

There is a continuum of developmental relationships along the spectrum of social network emergent leadership. This spectrum comprises the many established entities that also exist to support formalized bureaucratic administrative leadership. The individual emergent leadership roles are context-based (Blau & Scott, 2003; Thompson, 1967/2008; Scott & Davis, 2016) and frequently change, relative to the daily challenges, expectations, and achievements of the school building, school district, and community experience. Social network-empowered leaders emerge in schools as a result of situational context, network community needs, and the dynamics of the political tenor surrounding and within the school organization. Emergent, informal leaders serve as guides for the social network, protecting group interests and cultural norms, and responding to pressures from the internal and external open system environments. These informal leaders may cooperate and collaborate with the formal administrative leaders in their schools or they may take on competitive or even adversarial approaches; dependent largely upon the relationships created by the formal bureaucratic administrative framework and those who hold authority within it.

The organic contextual nature of the development of the social network emergent leadership is a fundamental component of and is key to the ultimate success of school building and school district organizations. The value of the emergent leadership emanates from the symbiotic relationship between formal leaders and the overall organizational social network. The formal leadership's ability to maintain organizational homeostasis (Katz & Kahn, 1966), conserving and channeling energy and resources towards the greater good of the school building and district organization, is exponentially increased from an in-depth understanding and working relationship with the social network.

Thompson (1967/2008) identified “dependence” as being the “obverse of power” (Thompson, 1967/2008, p. 30). It is important for the formalized leader to establish relationships that ensure a subordinate social network dependent upon the formal leader’s intervention for maintaining equilibrium and establishing homeostasis in the internal environment (Emerson, 1962; Spillane & Joullie, 2015; Thompson, 1967/2008). In doing so, the formal school leader has the ability to control and maximize the productivity of the educational process within the school building. In the analysis of “dependency” as related to power, Emerson (1962) discussed the existence of informal coalitions formed within groups and social networks. He stated that while “legitimized” power does accompany formalized authoritative positions, the true power to lead comes from the use of legitimized power in conjunction with an understanding and an insight into the structure and relationships that emerge from within the professional social network (Scott & Davis, 2016; Spillane & Joullie, 2015).

The success of formalized leadership is contingent upon the “process flowing through the actions of various members…spanning and linking levels…related to the intersection of components and levels” (Thompson, 1967/2008, p. 149). The awareness of the social network and deference to the informal, emergent, leadership facilitates the formal building leader’s ability to boundary span the dynamic interchange between the external and the internal organizational environments (Scott & Davis; 2016).

Thompson (1967/2008) references the “nexus” as the fluid interaction of organizational components. This nexus serves to keep each of the dynamic components functioning in systemic equilibrium; creating harmony within the organization. The harmony is the music that can only be heard when attending to the interplay of organizational components and in between the actual individuals (notes) in the organization. It is through the awareness of the composition of the

social network, the fluidity of the nexus, and the music in the connections, that building leaders can reduce the uncertainty of the open system as well as increase the flexibility of the closed system, striving to achieve an overall harmonic equilibrium between the two.

The key to the ultimate success or failure of any organization can be found in the relationships that exist between the individuals whom the organization comprises (Blau & Scott, 2003; Scott & Davis, 2016). Research and organizational theory have identified a multitude of leadership personas and have studied leader's personal identifications with formal, established, leadership styles (Bass, 1990; Blau & Scott, 2003; Fullan, 2011; Granovetter, 1973; Maxwell, 2007; Parsons, 1951; Parsons, 1960; Scott & Davis, 2016; Spillane & Joullie, 2015; Taylor, 1911; Thompson, 1967/2008; Weber, 1925; 1947). The challenge for individual leaders to develop an effective organizational leadership style and to become a successful leader have traditionally been introspective processes. Formal administrative leaders must individually assess, develop, and implement their leadership skills, talents, charisma, and overall ability to carry out the leadership responsibilities of the organization.

Noticeably missing from this perspective and equation of leadership is the value and the importance of the relationships established between and within the social network and the formal administrative leaders within schools. The key to effective and successful leadership is the recognition of the relationships, the understanding of the power within the social network relationship bonds, and the emergent leadership social capital that the social network contains. These rationalized formal structures are at the heart of the function, productivity, and control of the organization (Blau & Scott, 2013; Meyer & Rowan, 1977; Scott & Davis, 2016).

As shown in Figure 1.2, formal school building leaders must work to boundary span and buffer between the formal organizational sub-groups and emergent networks to maintain the

overall equilibrium and homeostasis of the organization (Katz & Kahn, 1966; Thompson, 1967/2008). Leaders must anticipate and respond to behaviors and feedback from the external environment, open systems constraints, contingencies, and other variables that impact the internal, closed system, environment. Of equal importance, but perhaps less recognized, is the need for formal administrative leaders in schools to boundary-span within their organizations, recognizing that the internal environment—in the form of the social network—can be a source of resources (i.e., supply), disruptions, or consumption (i.e., demand) in much the same manner as the external environment.

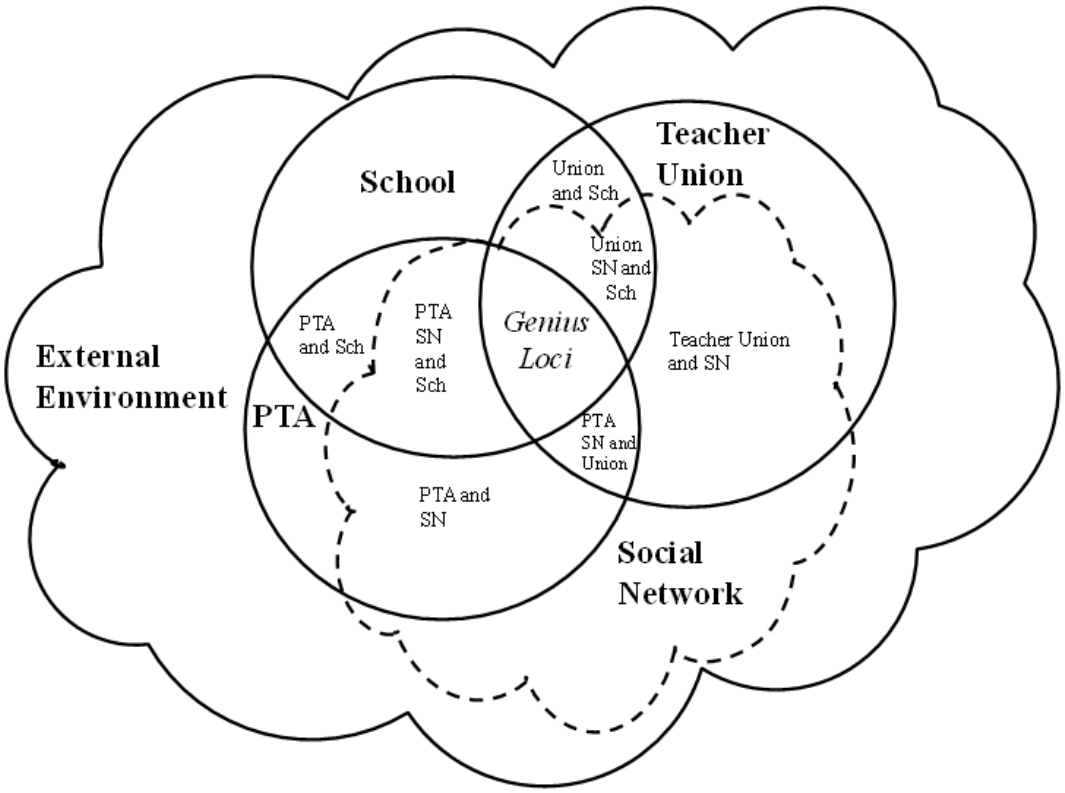

Figure 1.2. Boundary spanning and buffering roles. These roles result from navigating and establishing relationships between the external public school environment, formal public school

organizations (represented by solid lines), and the informal social network of the school organization (represented by dashed lines). The point of organizational sub-group convergence identifies the optimal synergy between formal school leadership and school organization constituents. Adapted and expanded from Blau and Scott (2003), Scott (1982), Scott and Davis (2016), and Thompson (1967/2008).

Bringing It All Together: The Genius Loci in School Leadership

It is the point of organizational synergy that reveals the "Genius Loci." The essence of the Genius Loci, "the spirit of the place," is found in the dynamic moment of optimal synergy. The moment when the place, the people, the acknowledgement of and respect for the relational interactions, and the awareness of the spontaneous, organic, optimal synergy between the organizational entities is reached. Working in synchronicity with the established sub-groups and the emergent network, formal administrative leaders are able to transcend the limitations of their own leadership knowledge, characteristics, and behaviors. This transcendence creates an entirely new contextual level of leadership with traits, behaviors, strengths, and challenges entirely unique to this newly formed alliance.

The strength, the power, and the essence of the organization are found within the bonds, linkages, and relationships of the comprised individuals and groups of individuals. It is the products produced by the personal interactions and professional bonding between the formal leadership and the social network that contain the strength, power, and dynamic essence of the organization, the Genius Loci.

Purpose of the Study

Research and theory on classical forms of leadership have identified and described leadership styles and qualities as well as the professional and personal characteristics of school

building leaders (Fullan, 2011; Hallinger, 2003; Leithwood, 1992; Leithwood & Janzi, 1999, Leithwood, & Janzi, 2005). Leadership research in education has traditionally focused on the development and effectiveness of school leaders as formally recognized and titled administrators, reflecting on their own leadership actions and beliefs, and establishing the tenor and strength of the social capital paradigm within their organization. Classical leadership analysis seeks to identify character traits to maximize leadership effectiveness and overall organizational success with the focus attending to the implementation of school building reforms to effect positive change.

In order to understand the true nature of effective leadership within school organizations, individual styles, qualities, and attributes of formally appointed leaders must be analyzed in context and as they relate to their organization's social networks. Effective school leadership has evolved to become a collective process; a synergistic reaction, a product of the interactions between the formal leadership and the organizational social network. It is only through the analysis of the relationships, interactions, and synergy of these components that the reality and the spirit of the leadership within the organization can be understood, harnessed, developed, and cultivated to its maximum potential.

This study combined the analysis of the social networks that exist within the school building organizations, along with the interaction and balance of the relationships between formally recognized school leaders and their understanding and identification of the social network and the emergent leadership within the school organization. The results can further reveal a pivotal complement to existing leadership qualities within school organization creating a new vision of the social network-aware formal school leader who resides in the Genius Loci of the school.

Definition of Key Terms and Phrases Used in This Dissertation

In order to provide a lexical foundation for understanding the ideas, research methods, and empirical findings presented in the remaining chapters of this dissertation, the following key terms and phrases are defined below. Unless otherwise stated in context, these definitions apply to the remainder of this text.

Boundary spanner. An individual in an organizational social network that has ties to two or more clusters or cliques within the social network. This individual functions as an integral component of each cluster or clique, while also serving to connect the separate clusters and cliques within the social network (Carolan, 2014; Scott & Davis, 2016; Thompson, 1967/2008; Valente, 2010).

Emergent leadership. Emergent leadership may also be identified as "informal leadership." Daily (2015) defines informal leadership as "a staff member with no formal leadership position but who occupies an influential position in the school's advice network" (Daily, 2015, p. 131).

External environment/open-system. As Thompson (2008) discussed the importance of the *task environment,* the external environment consists and references of all of the supports, resources, challenges, influences, pressures, and cultural norm expectations and mandates placed upon an organization by the community and world, outside of the organization, and within which the organization exists.

Formal leadership or formal administrative leader. The formal leader (a.k.a., formal administrative leader) derives authority from the administrative framework of the organization. Following Daly (2015), "formally designated leader refers to a school staff member with a formal leadership position such as principal, assistant principal, or mentor teacher" (p. 131).

Genius loci. The essence of the Genius Loci is the moment, the place, the people, the acknowledgement and respect for the relational interactions, and the awareness of the spontaneous, organic, and optimal synergy between and contained within the two didactic entities. By working in synchronicity the formal and emergent leaders are able to transcend their own characteristics and behaviors, creating an entirely new compound with traits, behaviors, strengths, and challenges entirely unique to this newly formed alliance (R. H. Red Owl, personal communication, August, 2016).

Internal environment/closed-system. As Thompson (1967/2008) discussed the importance of the *organizational technologies* and *task environments* he defined the organization, the internal environment, as a compilation of the supports, resources, challenges, influences, pressures, and cultural norm expectations and mandates inherent in an organization that, combined with the task environment, influence and drive the goals, vision, and direction of the organization.

Organizational rationality. The involvement of three major organizational components: resources within the organizations, members of the organizational social network, and expected products of the organization (Thompson, 1967/2008).

Social capital. The shared values, cultural norms, experiences, and goals and expectations among and between members of a social network (Lin, 1999, 2002). Social capital "can be mobilized to facilitate one's individual actions ... [and] refer to public goods such as generalized trust and norms that facilitate collective outcomes" (Yang, Keller, & Zheng, 2017, p. 206).

Social network. A social network consists of a "set of actors, each having a set of individual attributes, and a set of ties that defines at least one relation among the actors"

(Carolan, 2014, p7). These "interpersonal relations and how these relations develop into structures and patterns that [can] give rise to group norms" (Prell, 2012, p. 33).

Chapter Synthesis

School building leaders who possess a true understanding and awareness of key organizational and social network relationships within their schools have an increased ability to amplify and to maximize their school's overall effectiveness, improve productivity, and attain the Genius loci. Research on the social network aware school leader is limited. The next chapter presents a review of the research literature on the roles of and within the school organization social network, character traits and actions of general and school specific leadership styles and qualities, specifics related to the leadership of and within the social network, established and previously researched formal school leader behavior, influence, and management styles, as well as observations of leader/follower relationships, social network emergent leadership identification and influence, team-based leadership, and formal leadership cognizance of emotions and views of the organizational social network.

The purpose of the second chapter is to acknowledge what is understood, theorized, and documented related to formal school building leadership qualities. This information is then aligned with the functions and influence of the social network and network emergent leadership, with the Open Systems Theory (Blau & Scott, 2003; Katz & Khan, 1966; Parsons, 1960; Scott & Davis, 2016; Thompson, 1967/2008) as an important theoretical foundation for this study.

In the third chapter, the formal research questions guiding this study are presented. Important components revealed in the literature review, related to the relationship between formal school leadership and the social network, are also discussed in the third chapter. Further analysis, related to these components, are analyzed through a latent class analysis experiment to

reveal connections between formal leadership qualities, social network aware leadership, and effective school leadership.

Chapter IV presents the analytic results of the Latent Class Analysis experiment and the responses to the survey based research questions. In Chapter V, the final chapter, interpretations of the experimental results and conclusions related to social network awareness as a formal and effective leadership styled will be offered and discussed.

CHAPTER 2

REVIEW OF THE LITERATURE

This dissertation will focus on leadership characteristics of school building principals, investigating the informal social network as a context within which the components of leader-member exchange operate. Specifically, this study will analyze teachers' judgment perceptions about principal leadership qualities. The ultimate perception of effective principal leadership will be the result of the various combinations of leadership qualities and the degree to which each is demonstrated. These contextual combinations are indicative of individual leadership paradigms that enable each school organization to function, internally, as a closed system. Effective leadership is perceived and judged by its ability to maintain this closed system illusion, minimizing distractions and consequences on the school building from the direct impact and reality of the open system external environment.

As argued in the first chapter, schools operate as closed systems in open system environments. Systems and organizational theory has evolved over the past century to recognize the existence and impact of the open system environment on all organizations (Katz & Khan, 1966; Parsons, 1960; Thompson, 1967/2008). School organizations, still rooted in and functioning as closed systems, factory-model-based organizations, continue the struggle to maintain a closed-system approach in an open-system reality. In order to be effective in enabling their school organizations to function with closed-systems efficiency, school building leaders must effectively boundary span and buffer between the internal and the external environments.

The definition of leadership, and therefore the definition of leaders, as suggested by Bass (1990), can be conceptualized from several different and distinct perspectives. The multitude of definitions can be separated into four categories, defining and assigning leadership as: a process

of the interactions and working with followers, a possession of traits, skills, or personality, a result of individual actions and behaviors, and a formally assigned position (Hogg, 2001; Northouse, 2016). For the purpose of this study, leadership is defined and applied as a relationship-based process. Northouse (2016) describes leadership as a process whereby "the leader affects and is affected by the followers . . . . whereby an individual influences a group of individuals to achieve a common goal" (p. 6). Leaders are identified as those engaging in leadership plus their counterparts, and "those toward whom leadership is directed, will be called followers" (Northouse, 2016, p. 7). Hogg's (2001) social identity research and Rost's (1991) critique of traditional leadership studies explicitly pointed out that leaders and followers are vital to the existence of one another; for without leaders there are no followers, and without followers there are no leaders, "they are two sides of the same coin" (Northouse, 2016, p. 7).

Focusing on leadership as an interpersonal process, Eagly (2005) stressed the importance and authenticity of the relationships between leaders and followers. Northouse (2016) underscores Eagly's (2005) position, reaffirming that authentic leadership is a "reciprocal process because leaders affect followers, and followers affect leaders" (p. 196). Burns (1978) also wrote how leadership is tied directly to followers' needs and that the purpose of leadership is to "realize goals mutually held by both leaders and followers . . . in order to realize the purposes of both leaders and followers" (p. 18).

Winston and Patterson (2006) shared that developing a definition for the process and entirety of leadership is analogous to the parable of the blind men describing the elephant (and made all the more challenging in an attempt to describe the process of a moving elephant); each perspective, contextual application, and theoretical approach to leadership delimits the whole in its analysis of the parts. Winston and Patterson's (2006) meta-analysis of 26,000 journal articles,

with 160 containing a "definition, scale or construct of leadership" (p. 7) and including over 1,000 constructs, categorized 91 discrete dimensions resulting in an ultimate proposal of an integrative definition of leadership:

> A leader is one or more people who selects, equips, trains, and influences one or more followers who have diverse gifts, abilities, and skills and focuses the follower to the organization's mission and objectives causing the follower to willingly and enthusiastically extend spiritual, emotional, and physical energy in a concerted coordinated effort to achieve the organizational mission and objectives. (p. 7)

The basis of this integrative definition implies that the identification and analysis of the behaviors, actions, character traits, beliefs, and achievements of a leader or group of leaders comprise an overall definition of leadership. This overall integrative definition is also inclusive of the dimensions associated with individual leadership qualities. The definition of leadership used for the framework of this dissertation incorporates this integrative definition (Winston & Paterson, 2006), while it also evolved from and is aligned with the concepts of leader-member exchange (LMX) theory.

This chapter first reviews the traditional styles and perspectives of transactional and transformative leadership. The theory of leader-member exchange is then discussed, as a meaningful influence on the development of leadership qualities, detailing the levels of reciprocity, phases, and the subscale dimensions. The manner in which the limitations of role theory influence the perceptions of leadership style and effectiveness are also considered. Social networks, social network theory, and social exchange theory are also explored for their interactions and possible ties to leader-member exchange and school leadership. This chapter

concludes with a suggest for re-envisioning school leadership in the context of leader-member exchange and social network theory.

Traditional Leadership Styles and Behaviors

Over the past 50 years, research and theory on leadership have suggested many labeled leadership styles and have identified behaviors typical of leaders adhering to particular leadership paradigms. This research has overwhelmingly focused on the individualized actions and traits of leaders with limited regard to the behaviors of the followers (Hogg, 2001; Rost, 1991). In their meta-analysis of 26 studies and 384 correlations of personality traits and leadership styles, Bono and Judge (2004) concluded that extroversion (assertive, upbeat, talkative, and optimistic) was the strongest trait to correlate positively with leadership behaviors. Interestingly, the trait of extroversion requires an interaction with others, an active relationship with followers, in order to be an observable and measurable leadership characteristic.

Current leadership literature recognizes that the effective formal leader must possess and implement a blend of contextually appropriate traditional leadership behaviors and styles. As discussed below, these behaviors and styles have been labeled as either transactional or transformational/transformative (hereafter labeled usually transformative except for specific usage by particular sources); where transformative leadership is further categorized as having components of transformational, charismatic, level five, principle-centered, servant, and covenantal leadership perspectives**.** (Avolio, 1999; Avolio, Walumbwa & Weber, 2009; Bass, 1985; Bono & Judge, 2004; Burns, 1978; Caldwell, Dixon, Floyd, Chaudoin, Post, & Cheokas, 2012; Hauserman & Stick, 2013; Judge, Bono, Ilies, & Gerhardt, 2002; Leithwood, Harris, & Hopkins, 2008; Hogg, 2001; Marks & Printy, 2003; Northouse, 2016; Rost, 1991; Turner, Barling, Epitiropaki, Butcher, & Milner, 2002; Zaccaro, & Klimoski, 2001). The leadership

behaviors and styles discussed below can be identified by major emphasis, but they are not necessarily exclusive of one another.

Transactional Leadership Style

Transactional leadership/followership encompasses social or economic transactions, or both, and exchanges with calculated risk-taking components for both leaders and followers. This leadership process has, as its primary driving force, the motivations of both the leaders and the followers as direct beneficiaries of the transaction (Bono & Judge, 2004; Burns, 1978; Scandura & Pellegrini, 2008; Yukl, 2012). Northouse (2016) distinguished transactional leadership as that which "does not individualize the needs of followers or focus on their personal development" (p. 171). However, followers engaging in the relationship with the leader are also looking to serve their own interests and therefore bestow upon their leader the power of influence (Kuhnert & Lewis, 1987). Kuhnert and Lewis (1987) point out that, while transactional exchanges are valued by both leaders and followers and are beneficial to both, they are not equal in value. Those variations in value create different levels of transactions and transactional leadership.

Avolio, Bass, and Jung (1999) tested Bass's six-factor leadership model using the Multifactor Leadership Questionnaire (MLQ form 5) with 3,786 respondents and compared nine and then five different factor structure models. Their confirmatory factor analysis isolated contingent reward and both active and passive management-by-exception as key transactional leadership factors (Avolio et al., 1999; Northouse, 2016). Contingent reward puts forth a positive transactional approach, whereby the specific outcome, as a result of satisfactory follower actions and behaviors, is understood up front by both leaders and followers. This quasi-negotiation relationship allows both parties to understand and then to accept or reject the transaction (Burns, 1978; Northouse, 2016). Management-by-exception involves "corrective

criticism, negative feedback, and negative reinforcement" (Northouse, 2016, p. 171), as the leader either actively engages and observes the followers' actions and behaviors, or passively evaluates the follower at the conclusion of the task or performance.

Transformative Leadership Style

Leadership research over the past four decades has focused heavily on the analysis and effects of the transformative approach (Avolio, 1999; Avolio, Bass & Riggio, 2006; Bass, & Jung, 1990; Avolio, Walumbwa, & Weber, 2009; Bass, 1985, 1990; Bono & Anderson, 2005; Bono & Judge, 2004; Burns, 1978; Caldwell, Dixon, Floyd, Chaudoin, Post, & Cheokas, 2012; Covy, 2004; Graen, 2004; Hauserman & Stick, 2013; Howell & Hall-Merenda, 1999; Judge, Bono, Ilies, & Gerhardt, 2002; Kuhnert & Lewis, 1987; Marks & Printy, 2003; Northouse, 2016; Rost, 1992; Turner, Barling, Epitropaki, Butcher, & Milner, 2002; Wang, Law, Hackett, Wang, & Chen, 2005; Winston & Patterson, 2006, Yukl, 2012). Bass and Riggio (2006) contended that the focus of transformative leadership intrinsically aligns with follower needs for inspiration, support, and empowerment, while simultaneously reducing the uncertainty of the external environment.

Bono and Anderson (2005) conducted a field study of 169 subjects in six organizations and found that leaders with higher transformative style scores exerted stronger influence within organizations. Such transformative-style leaders developed more social capital among followers and were more frequently sought after by followers for advice and support. Northouse (2016) offered an holistic definition of transformative leadership as being a "process that changes and transforms people" (Northouse, 2016, p. 161). In his view, transformational leadership:

> is concerned with emotions, values, ethics, standards, and long-term goals. It includes accessing followers' motives, satisfying their needs, and treating them as full human

> beings . . . . [and] involving an exceptional form of influence that moves followers to accomplish more than what is usually expected of them. It is a process that often incorporates charismatic and visionary leadership. (p. 161)

Transformative leadership, as defined by Caldwell et al., (2011), is a combination and integration of "six well-regarded leadership perspectives [transformational leadership being one of the six] and combines key normative and instrumental elements of each . . . by demonstrating a commitment to the welfare of all stakeholders and by optimizing long-term wealth creation" (p. 175). For the purposes of this study, and as the individual characteristics and behaviors of the six leadership perspectives proposed by Caldwell et al. (2011) are often integrated and combined in leadership research, the terms transformative and transformational leadership are, therefore, be considered equivalent in their actions and behaviors towards followers and in their leadership goals for organizations.

Transformational leadership, while "difficult to define exactly the parameters" (Northouse, 2016, p. 178), comprises idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1990b; Bono & Judge, 2004; Caldwell et al., 2011; Northouse, 2016; Yukl, 2012). Burns (1978) referenced Gandhi as an exemplar of transformational leadership, whereby the conduct, behaviors, and aspirations of both leaders and the followers are transformed as they engage with one another in both professional and personal interactions.

Idealized influence is often equated with charisma. These leaders present as the ideal role model, with attributes and behaviors that followers admire, trust, and desire to emulate. Inspirational motivation, as implied, has a team-like approach where the leaders inspire and motivate followers to embrace the organization's high expectations, mission, and goals.

Intellectual stimulation encourages creativity, rational thinking, and innovative ways towards problem solving. Individualized consideration focuses on differentiated leadership support and coaching of individuals to maximize followers' potential and ability to contribute to the organization. (Bass, 1990b; Bono & Judge, 2004; Caldwell et al., 2011; Northouse, 2016; Yukl, 2012).

Charismatic leadership perspective. Weber (1947) used the term charisma to explain the manner in which followers believe leaders possess extraordinary attributes (Yukl, 2012). The leader-follower bonds and close relationships create a passion on the part of the followers for the leaders and the goals of the organization. Charismatic leaders "inspire a shared vision in pursuit of a grand ideal to touch hearts, to create a personal relationship that brings out the best in others, and to change the world" (Caldwell et al., 2011, p. 178). Hogg (2001) posited that leaders assist followers in attaining their goals and that leaders are, therefore, the beneficiaries of power and status. Charismatic leaders, in turn, simultaneously motivate followers to perform beyond their own interests, thus maintaining the overall equilibrium of the leader-follower relationship.

Level-5 leadership perspective. Level-5 leaders perceive their role as a buffer between the stress and barriers of the external environment while providing the resources followers need to achieve all organizational goals. Level-5 leaders humbly defer credit to followers and take responsibility for failures; they look to promote and cultivate future leaders from within the organization. Level-5 leaders "treat people fairly, give [followers] credit for their achievements, and support them wisely to help achieve organizational goals" (Caldwell et al., 2011, p. 179).

Principle-centered leadership perspective. As explained in Caldwell et al. (2011), Covey (1999, 2004) presented a principle-centered leadership perspective governed by values,

principals, and duties that "encompass a set of moral duties to add value today, to do no harm, and to contribute to the welfare of individuals and society in the future" (p. 179). Principle-centered leadership underscores the importance of holding oneself to a higher moral and ethical set of principles and standards, and also of valuing the variety of relationships established with all followers. Principle-centered leaders demonstrate their commitment towards protecting and fulfilling the responsibilities that accompany relationships with all members of the organization and focusing on long-term goals in lieu of short-term gains (Caldwell et al., 2011; Covey, 1999).

Turner et al., (2002) investigated leaders' self-perceptions of moral reasoning and followers' perceptions of leadership behaviors; in that study, they conducted an analysis of covariance using Bass and Avolio's (1995) Multifactor Leadership Questionnaire (MLQ) and Rest's (1990) Defining Issues Test. Based on the evidence they collected, Turner et al. (2002) found that those leaders with higher moral reasoning exhibited higher measures of transformational leadership and that "moral reasoning influences transformational leadership" (p. 309) behaviors.

Servant-leadership perspective. Servant leadership is rooted in the tenets of care, humility, compassion, and altruism (Caldwell et al., 2011; Gilligan, 1993; Krames, 2015; Noddings, 2005). The value and focus of this leadership perspective places the well-being of the individuals as a priority over the welfare and goals of the leader and organization, advocating a humble focus and approach towards relationships that "inspires as much as surprises" followers and observers alike (Caldwell, 2011, p. 180).

The paradox of servant leadership is that it promotes leaders operating in service to those who follow. Research and literature on servant leadership offer both theoretical and pragmatic applications and behaviors for leaders. Servant leadership encourages sympathy, empathy,

attentiveness, and nurturing towards all followers (Northouse, 2016). Greenleaf (1970) offered both a definition and a test for the impact of servant leadership; upon reflection of the servant leaders' behaviors and actions. Greenleaf (1970) asked, as repeated by Northouse (2016), whether "those served grow as persons; . . . become healthier, wiser, freer, more autonomous, more likely themselves to become servants" (p. 15) and, thereby, create a greater good for the overall organization and community.

Covenantal-leadership perspective. Through a covenantal-leadership perspective leaders serve as exemplars and role models for followers, but, equally as important, they are also students and part of the overall learning process. Covenantal leadership "inculcates a culture of learning within organizations" (Caldwell, 2005; Caldwell et al., 2011, p. 180) and advocates understanding the goals of individuals and the organization, while creating optimal conditions for exploring new and innovative pathways towards success (Caldwell, 2005; Caldwell et al., 2011; Senge, 2006). Covenantal leadership offers a philosophic view of the interconnectedness of individuals within an organization, accompanied by moral obligations to society. The covenantal leader is obliged to "honor the responsibility to learn continually and to share what is learned so that the community may continue to grow" (Caldwell, 2005, p. 501).

Leader-Member Exchange Theory (LMX)

Leader-member exchange (LMX) theory was introduced almost four decades ago by Graen and various colleagues and continues to be a major perspective on leadership into the current decade (Dansereau, Graen, & Haga, 1975; Graen, 2004; Graen & Graen, 2006; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhi-Bien, 1995; Liden & Graen, 1980; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011). Originally labeled as vertical dyad linkage (VDL)

theory, LMX provides a theoretical framework for analyzing and understanding the importance of multilevel and multidimensional relationships between leaders and followers (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden & Maslyn, 1998; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011; Schriesheim, Castro, & Cogliser, 1999). The foundation and framework of LMX provides an appropriate lens through which to analyze the formation of relationships between formal organizational leaders (i.e., those with legitimate, formalized authority within the organization) and those members of the organization who are their subordinates (Martin et al., 2010; Schriesheim et al., 1999). These LMX relationships are dynamic, cyclic, and recursive, as they mediate the performance of the followers, inform the behaviors of the leaders, and thus affect the subsequent performance of the followers; ultimately determining the effectiveness of organizations and their leadership (Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Martin et al., 2010; Schriesheim et al., 1999; Wang, Law, Hackett, Wang, & Chen, 2005).

LMX relationships are integral to social network positioning (Bono & Anderson, 2005; Graen & Graen, 2006) and the overall leadership style within the organization. As a result of this network positioning, strategic LMX relationships have the power to cultivate, support, and to increase the roles of leaders and their status as boundary spanners and buffers in the organizational social network (Graen & Graen, 2006).

Levels of reciprocity under LMX. Under its original incarnation as the vertical dyad linkage theory, LMX focused on the dyadic relationships created between leaders and followers; presumably, followers who work well with leaders and perform beyond their job and role expectations. LMX asserts that these in-group followers often find that their performance results

in special consideration and rewards from their leaders and that they typically become very loyal, long-term employees of the organization (Northouse, 2016). In a meta-analysis of 51 empirical studies, Ilies, Nahrgang, and Morgeson (2007) found that when employees were part of the in-group and received such attention from their leader, they in turn demonstrated behaviors that were beneficial to the leader and to the organization (Northouse, 2016). Out-group followers, in contrast, "operate strictly within their prescribed organizational roles . . . . doing what is required of them but nothing more" (Northouse, 2016, p. 114). Out-group followers are not treated badly by leaders, but they also do not receive similar, in-group, consideration and rewards from their leaders.

Phases of leader-member exchanges. Graen and Scandura (1987) defined LMX role development and relationships as a trust-based process for leaders and followers, evolving through three consecutive phases: beginning with role-taking, progressing to role-making, and arriving at role-routinization (Liden et al, 1997; Scandura & Pelegrini, 2008). The leader-member interaction, individual and group behaviors and responses, and resulting productivity, determine the degree and the extent to which the leaders' and follower's relationships progress from one level to the next (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden et al., 1997; Scandura & Pelegrini, 2008).

The leadership value that results from each of these exchange phases increases with each progressive phase. The ability to progress through the three role phases earns an LMX relationship classification level of a low quality (transactional-based) exchange or a high quality (mutual respect-based) exchange (Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden & Maslyn, 1998; Martin et al., 2010; Scandura & Pelegrini, 2008; Schreisheim et al., 1999). Scandura and Pelegrini's (2008) research study added an economic and emotional exchange

level to the analysis of the multidimensional LMX relationship development and progression. Role progression, exchange level, and the impact of trust (sponsorship), when combined with LMX analysis, appear as covarying—or perhaps confounding factors—in the overall analysis of the leader-follower relationship model progression.

Sparrowe and Liden (1997) built upon the work of Sahlins (1972) to establish the important foundation of reciprocity in leader-member exchanges and their ensuing relationships. Sahlins's (1972) views on reciprocity address three dimensions related to the return on the leader-member exchange: immediacy, equivalence, and the "degree and nature of the interest of each party in the exchange" (p. 524). Further developing this foundation, Sparrowe and Liden (1997) linked these basic dimensions to a continuum of forms: a generalized altruistic exchange, a mutual balanced exchange, and a retaliation-based negative exchange.

Sparrowe and Liden's (1997) LMX continuum was viewed as "paralleling the continuous nature of leader-member exchange quality but with the added advantage of including the fuller range of exchange relationships" (p. 525). The application of reciprocity and its impact on relationships supported the expansion of LMX research beyond that of the original vertical dyadic view. The individual and the interrelationships between leaders and followers are both contextual and dynamic, taking on a variety of models and dimensions in their ultimate manifestations.

Sparrowe and Liden (1997) connect LMX back to the Hawthorne studies (Roethlisberger & Dickson, 1939) and having stated that "informal relationships are essential for achieving work related goals" (p. 526) and for related productivity. As one of the precursors to research on leader-member relationships and productivity, the Hawthorne studies and the identified Hawthorne effects (Gale, 2004; Parsons, 1974; Roethlisberger & Dickson, 1939; Sparrowe &

Liden, 1997) are frequently referenced by behaviorists and researchers. The results of the Hawthorne studies (Roethlisberger & Dickson, 1939) highlight the impact of social network relations and leader-member relationships on both follower performance and leader behaviors and effectiveness.

Parsons's (1974) analysis of Hawthorne, not discounting his concerns for experimental effects, highlighted the modification and adjustments of behaviors as a direct result of performance and feedback (Greguras & Ford, 2006; Settoon, Bennett, & Liden, 1996; Wang, 2005). In keeping with LMX and social network theory, it would appear that the behaviors of both followers and leaders are subject to the influence of what Parsons (1974) cited as the Hawthorne phenomenon and its contextual influence on leader-follower relationships. In their extensive review of LMX, Martin et al. (2010) "acknowledge[d] that leadership is not simply a top-down process . . . nor is it bottom-up, but it is a reciprocal relationship where each person plays an active role" (p. 2). As Sparrowe and Liden (1997) noted, Ibarra (1992) posited that "informal relationships are held to be essential for achieving instrumental ends" (Sparrowe & Liden, 1997, p. 526).

Mutuality and the Subscale Dimensions of Leader-Member Exchanges

The core dimensions of leader-member exchanges are observed in the nuances of the dynamics in the ongoing exchanges that occur both between leaders and followers and between followers and leaders. The "negotiating latitude" (Graen & Cashman, 1975, p. 144) and the "currencies of exchange" (Dienesch & Liden, 1986, p. 625) that characterize these leader-follower and follower-leader interactions determine the manner and the intensity with which each party engages in and participates in the exchanges.

Dienesch and Liden (1986, p. 624) stressed the importance of "mutuality" as the key element for exchange relationships to exist. Mutuality exists when both parties in the exchange relationship contribute and feel that their contributions are valued. Acknowledging the critical importance of mutuality in defining exchanges, contemporary LMX research has concentrated on four dimensions that define leader-member exchange relationships (Dansereau, et. al., 1975; Dienesch & Liden, 1986; Liden & Maslyn, 1998; Greguras & Ford, 2006).

These LMX dimensions initially included (a) contribution, (b) affect, and (c) loyalty, as identified by Dienesch and Maslyn (1986), and subsequently were extended to add (d) professional respect, as identified by Liden and Maslyn's (1998) LMX Dimension Scale. For the purposes of this study these will be considered the four major dimensions of LMX. These four dimensions adequately represent leader-member exchange relationships (Liden & Maslyn, 1998) and are "mutually reinforcing through an ongoing reciprocal relationship" (Dienesch & Maslyn, 1986, p. 625). These dimensions represent distinct subscale of LMX, as discussed in Chapter 3. The conceptual nature of each of these dimensions is as follows:

- **Contribution LMX dimension.** Contribution is the **"**perception of the amount, direction, and quality of work-oriented activity each member puts forth towards the mutual goals (explicit or implicit) of the [leader-member] dyad" (Dienesch & Liden, 1986, p. 624). Dienesch & Liden (1986) contended that the level of perceived contribution in an exchange is more important than loyalty or the nature and difficulty of the tasks which the leader assigns to a subordinate, and, further, that both the leader and member must have confidence in the abilities of the member and the availability of resources provided by the leader to successfully complete the assigned task. When members have contributed high value and a strong performance to a task, the relationship with the leader

takes on a higher quality and a greater exchange between the leader and member (Bass, 1990a; Liden & Maslyn, 1998). As a result of leader satisfaction with members' performance, members receive resources to further their positions in the organization (Graen & Cashman; Liden & Graen, 1980; Liden & Maslyn, 1998; Scandura et al., 1986).

- **Affect LMX dimension.** Dienesch and Liden (1986) observed that the symbiotic constructs of liking and affection for one another are "based primarily on interpersonal attraction rather than on work or professional values" (p. 625). As they explained, these constructs determine both the "tone" of the interactions and the "warmth" of the workplace "atmosphere" (p. 625). They further emphasized that it is important that LMX exchanges provide "flexibility and emotional support" in acknowledging issues outside the workplace that impinge on workplace tasks and relationships (Dienesch & Liden, 1986, p. 625). Liden and Maslyn (1998) called attention to the empirical evidence provided by Wayne and Ferris (1990) that affect is a fundamental dimension of leader-member exchanges. Wayne and Ferris (1990) found correlation coefficients of $r = .74$ in their lab experiment and $r = .73$ in their field study between liking and the quality of leader-member exchange relationships. Liden, Wayne, and Stilwell (1993) used regression analysis to assess the perceptions of 166 newly hired employees and their immediate supervisors. They found that leaders' liking of their subordinates was a better predictor of the quality of the leader-member exchanges than the actual performance of the members. It is also worth noting that this study found that perceived similarity (prototypicality) and expectations, when assessed with liking, were also statistically

significant predictors for high-quality leader-member exchanges at later points in time (Liden, et al., 1993).

- **Loyalty LMX dimension.** Another construct that is critical to leader-member exchanges is loyalty, which Dienesch and Liden (1986) defined as "the degree to which the dyad members protect each other relative to the outside forces in their immediate environment" (p. 625). This protection is valuable to the leader and, therefore, Dienesch and Liden (1986) suggested that a loyal exchange should be further developed, leading to greater long-term benefits for the leader as well as exhibiting a "greater effect on the number of boundary-spanning assignments" (p. 625) held by the leader.
- **Professional respect LMX dimension.** The fourth dimension of leader-member exchanges was initially thought to be a part of the loyalty dimension (Dienesch & Liden, 1986), but confirmatory factor analysis later revealed that professional respect is a distinct dimension separate from loyalty (Liden & Maslyn, 1998). Liden and Maslyn (1998) defined professional respect as "the perception of the degree to which each member of the dyad ha[s] built a reputation, within and/or outside the organization, of excelling at his or her line of work" (p. 49). Evidence of professional respect might include resumes, reputations based upon past experiences, and previous recognitions and awards. Liden and Maslyn (1998) found that the perception of professional respect could be established prior to the leader and member ever meeting or working together.

It is clear, then, that mutuality, as seen in the four specific dimensions described above, is essential to and critical in defining the nature and success of leader-member exchanges. Another such critical quality is that of leader-group prototypicality, which is addressed next.

Leader-Group Prototypicality

The concept of influential leaders' prototypicality (emulating and demonstrating the behaviors, norms, culture, and actions of the group) plays an important role in the discussion of leadership qualities, as well as LMX, role, and network theories. These behaviors and actions have been found to align with measures of leadership status and effectiveness. Foreshadowing the relationship of LMX theory to social network theory (as suggested by Sparrowe and Liden in 2005), Hogg (2001) relied on the social identity theory of leadership and the "critical role" (p. 196) of followers' behavior in concluding that "leadership is a group process" in which "social categorization" and social identity are critical (p. 184). Van Knippenberg (2011) echoed the importance of leader-follower relationships and the social identity of both leader and follower. The importance of LMX theory, social identity theory, and social network theory were underscored by van Knippenberg (2011) in a meta-analysis on perceptions of leadership effectiveness.

In research on supervisor-subordinate similarity, Turban and Jones (1988) found that perceived similarity and congruence of the responsibilities and expectations of the work environment led to increased subordinate performance and more positive assessments of that performance by supervisors. In this study involving 155 subordinates and 25 supervisors in a rehabilitation health field, they observed that when subordinates rated their supervisor as similar to the subordinates themselves, the subordinates developed high levels of trust and confidence in the supervisors. This led to more positive perceptions of their relationships to their supervisors.

Research has shown that leaders are perceived to be effective when they have been chosen by the group based on their prototypicality within the group, their in-group congruence, and, further, when they have earned "idiosyncrasy credit"—akin to the colloquial concept of "street cred"—and fit within the culture and norms (i.e., schema congruence) of the group (Duck

& Fielding, 1999; Fielding & Hogg, 1997; Hains, Hogg, & Duck, 1997; Hogg, 2001). Avolio et al. (2009) reinforced the concept of leader prototypicality adding the caveat that prototypes—and thus prototypicality—are contextual and fluid. Prototypicality develops as a result of environmental limitations, challenges, and leaders' experiences. The dynamic nature of organizations' prototypicality underscores the importance of leaders' having a contextual awareness of the social network in the closed system as well an understanding of the pressures placed upon the organizations as open systems (Rost, 1991).

Pierro, Cicero, Bonaiuto, van Knippenberg, & Kruglanski (2005) connected levels of leader-group prototypicality and follower reliance on organizational group membership, to the reduction of uncertainty in the workplace, and a resulting perceived increase in leadership effectiveness and follower satisfaction. Based on a multiple regression analysis of survey responses from 242 employees of three Italian companies, Pierro et al. (2005) found that leadership effectiveness was moderated by the leaders' ability to reduce uncertainty (c.f., Thompson, 1967/2008). This ability was found to be directly correlated with leaders' degrees of perceived leader-group prototypicality and the subsequent constructs and measures of overall leadership effectiveness (Pierro et al., 2005).

The concepts of contextual and group congruent prototypicality (i.e., organizational assimilation), along with social identity theory (Hogg, 2001; Pierro et al., 2005; van Knippenberg, 2011), reinforce the importance of leaders' relationships with followers. In particular, they emphasize the importance of leaders' perceived in-group status and their roles as boundary spanners and buffers, mediating the relationships between their formal organizations and the informal social networks within them and external to them (Hogg, 2001; Northouse, 2016; Pierro, Cicero, Bonaiuto, van Knippenberg, & Kruglanski, 2005; van Knippenberg, 2011).

Prototypicality, therefore, involves boundary spanning and buffering, but, due to the fluidity of the relationships, these functions can create limitations in viewing leadership roles within leader-member exchanges too strictly or rigidly. These limitations are discussed next.

Role theory limitations in leader-member exchanges. Leadership roles and behaviors must evolve in response to the open system environment in order to buffer the closed system where the organizational membership functions. Maintaining rigid, prescribed, behaviors with the assumption that the forces and pressures on an organizational system are stable (Biddle, 1986) is counterintuitive to the flexible and adaptive nature of LMX relationships (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden & Maslyn, 1998; Martin, Epitropaki, Geoff, & Topakas, 2010; Schriesheim, Castro, & Cogliser, 1999), as well as to the emergent leadership status and roles of network theory (Burt, 1982, 2000; Graen & Cashman, 1975; Kilduff & Krackhardt, 2008).

Biddle (1986) asserted that role theory "implies that organizations are rational, stable entities, that all conflicts within organizations are merely role conflicts, and that the participant will inevitably be happy and productive once role conflict is resolved" (p. 74). When conflict does exist, LMX theory and network theory point to the counter-argument that the conflict is not within the role, but within the relationships of those in the organizational roles. The behaviors and inability of leaders to buffer the core organization from the pressures of their external environments—as well as from internal pressures emanating from informal social networks within the organizations—create role conflicts among the members.

When these boundary-spanning and buffering functions are carried out effectively by leaders, organizational members develop greater trust and confidence in their leadership. The role of trust in leader-member exchanges is discussed next.

Trust, sponsorship, and leader-member exchange. Liden and Maslyn (1998) defined trust as "the perception of the degree of genuine concern for the best interest of the other members of the dyad as reflected in supportive behavior and honesty" (p. 49). Caldwell et al. (2012) cite research indicating a recent general decline in the trust that followers have in leaders and call upon leaders to "raise their standards, demonstrate their character, and meet the expectations of a cynical but increasingly complex world" (p. 175). Traditional models of leadership are often ineffective, and a new model of leadership is needed to foster greater trust within organizations and society in general (Caldwell et al., 2012). The construct of trust, which Sparrowe and Liden (1997) have labeled as "sponsorship," is often used as a descriptor and identifier for both high- and low-quality LMX, as well as for positive and negative leader-follower relationships (Scandura & Pellegrini, 2008). LMX interactions imbedded in group dynamics and expectations form a continuum of trust-based relationships (Scandura & Pellegrini, 2008, p. 101).

Based on a study of 228 professionals in a Southeastern university MBA program, Scandura and Pelegrini (2008) concluded that trust need not be either mutual or reciprocal and that in all levels of LMX, trust is fragile and dynamic, based upon the costs and benefits associated with relationships. The role, establishment, and basis of trust and sponsorship, defined as a "willingness to be vulnerable" (Mayer, Davis, & Schoorman, 1995, p. 712) and as "an individual's belief in, and willingness to act on the basis of words, actions, and decisions of another" (McAllister, 1995, p. 25) have been the focus of both leadership and leader-follower

relationship research (cf., Scandura & Pelegrini, 2008; Graen & Uhl-Bien, 1995; Brower, Schoorman, & Tan, 2000).

Van Knippenberg (2011) stressed the role of trust in exhibiting both effective leadership and "procedural fairness" (p. 1084). The strength of network ties, the reactions and behaviors of exchanges between leaders and followers, and the success of the overall organization are each reflective of the degree of trust and sponsorship that exists, develops, and is sustained between leaders and followers (Caldwell, et al., 2012; Graen & Graen, 2006; Scandura & Pellegrini, 2008; Sparrowe & Liden, 1997, 2005; van Knippenberg, 2011).

Sparrowe and Liden (2005) found that leaders' trust in their followers was correlated positively with the status of their followers. As the degree of leaders' trust in their followers increased, the members' network centrality was found to approach that of the leaders, reflecting the important effects of "social capital" (Lin, 1999) within social networks (Brass, 2001; Brass & Krackhardt, 1999; Burt, 1982, 1997, 2000; Graen & Graen, 2006; Greguras & Ford, 2006; Lin, 1999, 2002; Sparrowe & Liden, 2005; Wayne, Shore, & Liden, 1997).

The consideration of trust in leader-member exchanges, therefore, leads directly to a consideration of social network theory as discussed in the previous chapter. The positions of leaders in the informal, emergent social networks that surround them, as well as their access to resources through ties with others in the networks, moderate the quality of their leader-member exchanges (Brass, 1984; Sparrowe & Liden, 2005). Social network positioning (e.g., boundary spanning, buffing, and network centrality) plays an integral role in the levels of trust and sponsorship that leaders achieve in their formal positions in their overall organizations (Balkundi & Kilduff, 2005). These factors point to the inherent interrelationships of leaders' social network status, the quality of their leader-member exchanges, the trust and sponsorship they

experience, and the beliefs, behaviors, and performance of their followers. They are critical, therefore, in determining the leaders' overall effectiveness as formal leaders (Balkundi & Kilduff, 2005; Howell & Hall-Merenda, 1999; Scandura & Pelegrini, 2008; Sparrowe & Liden, 1997; Wang et al., 2005; Wayne et al., 1997).

Re-envisioning Leadership in the Context of Social Networks

Over the last several decades, the research literature and theory on leadership styles and leader-member exchanges have begun to emphasize the importance of leaders' having an in-depth awareness of and ability to interact with social networks (Biddle, 1986; Bono & Anderson, 2005; Brass, 2001; Brass & Krackhardt, 1999; Burt, 1982; Burt, 1992; Burt, 1997; Burt, 2000; Cropanzano & Mitchell, 2005; Geletkanycz & Hambrick, 1997; Graen, 2004; Graen & Graen, 2006; Graen & Cashman, 1975; Granovetter, 1974; Greguras & Ford, 2006; Howell & Hall-Merenda, 1999; Kilduff & Krackhardt, 2008; Krackhardt, 1992; Settoon, Bennett, & Liden, 1996; Sparrowe & Liden, 2005; Wellman & Berkowitz, 1988; Wayne, Shore, & Liden, 1997; Zaccaro & Klimoski, 2001). It is now clear that effective leaders must understand and draw advantages from the naturally emerging, informal, social networks within and surrounding their formal organizations. They must also have an appreciation for the social capital conferred by their relationships in these social networks and, further, must recognize and collaborate with the informal leaders who emerge naturally—sometimes for short periods and at other times with longer tenure—within the dynamics of their social networks.

As discussed above, traditional LMX research presented leader-member exchanges as unidimensional, dyadic interactions, assessing the perspectives of the subordinates through the lenses of four distinct dimensions, which have been operationalized as subscales of the LMX-7 scale (Liden & Maslyn, 1998). With the recognition and analysis of organizational social

networks and an understanding of social exchange theory, LMX research has moved beyond traditional limitations (Sparrowe & Liden, 1997, 2005; Uhl-Bien, Graen, & Scandura, 2000). Leader-member exchanges must be viewed through a multidimensional lense, reaching far beyond the isolated dyads to encompass the complexities and the web of relationships that emerge naturally within the organizational social networks.

As social networks are dynamic, organic, evolving phenomena, leader-member exchanges and leadership behaviors must proactively assess, purposefully engage, and reactively develop in accordance with the social networks that surround them and emerge within their formal organizations. These social-network-aware, process-oriented, organizational leadership behaviors develop and evolve in response to leader-follower interactions and relationships (Bauer & Green, 1996; Graen & Graen, 2006; Graen & Uhl-Bien, 1995; Sparrowe & Liden, 1997, 2005). This subsequent, re-envisioned, network- and relationship-based leadership style effectively addresses the needs and provides or brokers the resources for the internal environment, while buffering the impact of the external environmental demands on the organization (Bauer, Schoorman, & Tan, 2000; Burt, 2000; Graen & Graen, 2006).

Sparrowe and Liden (2005) highlighted the importance of work relationships in their comparative study of leader-member exchange and social network perspectives. They have cautioned that, “As traditional hierarchical structures have given way to flatter and more flexible forms, informal networks have become even more important in gaining access to valuable information, resources, and opportunities” (p. 505). Both LMX theory and social network theory focus on the importance of influence in work relationships for both leaders and followers. In that regard, Brass (2001) has emphasized the point that, “We [have now come to] define leadership as the ability to accomplish work through others” (p. 132). The degree to which the leader is

perceived to be integral to the social network and the role the leader assumes within the network are ultimately determined by the particular aspects and resulting perceptions of the leader's style and leader-member exchanges. The organizational social network is a dynamic phenomenon comprising multifaceted relationships that go beyond traditional dyads. Successful leaders must exhibit an amalgam of traditional leadership styles and employ a variety of individual and blended LMX relationship dimensions that are nuanced and aligned to the various social networks that exist around them.

Leader-Member Exchange Theory Revisited Through Social Network Theory

LMX theory did not begin with a formal acknowledgement of its relationship to social network theory. The importance of viewing leader-member exchanges with social network theory understanding began three decades ago and has since been recognized in the LMX literature. Graen and Uhl-Bien (1995) and Sparrowe and Liden (1997) studied the nature of the leader-member exchange process and the development of the relationships between leaders and followers. Sparrowe and Liden (1997) and, subsequently, Liden and Maslyn (1998) developed a theoretical model depicting the foundation, differentiation, and importance of the leader-member relationships as described in social network theory. This model recognized the importance of social network concepts for understanding and expanding LMX theory, drawing upon Merton (1957), Parsons (1960), Emerson (1962), Katz and Kahn (1966, 1978), and Graen and Uhl-Bien (1995).

This newer, network-focused model incorporates both low-quality and high-quality exchange relationships and underscores that relationships are contextual based, multilayered, embedded in other relationships and impacted by all of these factors (Liden & Maslyn, 1998; Sparrowe & Liden, 1997). This clarification is noteworthy in that it acknowledges the traditional

dyadic relationships between leaders and followers and expands the focus to extend beyond the dyadic level. This expansion emphasizes that the leader-member exchange relationships must be viewed in the context of the informal social networks within organizations (Sparrowe & Liden, 1997).

LMX theory, social network theory, and role theory. The foundations of organizational role theory are inherent in LMX theory as well as in social network theory. Relationships between leaders and followers within the organizational social network are established as a result of individual roles and behaviors (Biddle, 1986; Parsons, 1951). Individuals respond, react, behave, and modify their behaviors, in response to their current contextual situation and based upon the relationships that they have with other members of the social network in the same situations (Biddle, 1986; Burt, 1982; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). Organizational norms and cultural expectations, the formal and emergent status of leadership roles within the organization, and the manner in which leaders behave towards and establish relationships with followers are often guided by these role expectations and theoretical models (Biddle, 1986; Burt, 1982; Parsons, 1951; Schriesheim et al., 1999).

Social network theorists tend to view roles as emerging from and shaped by the structures of informal networks, relying upon the concept of regular equivalence (Borgatti & Everett, 1992; Borgatti, Everett, & Johnson, 2013; Carolan, 2014; Prell, 2012; Scott, 1991, 2013; Wasserman & Faust, 1994; Wellman & Berkowitz, 1988; Yang, Keller, Zheng, 2017). Regular equivalence is observed in networks when nodes (i.e., actors) have similar patterns of structural relationships such as could be seen in the structural relationships that exist between leaders and followers. From this perspective, leadership roles may emerge without formal design or authority and without regard to official organization charts. Indeed, leaders who hold formally assigned and

titled positions may also come to hold emergent leadership positions within social networks, in parallel to their formal titles. Formal leaders hold power by virtue of the authority of their titled positions, but they may extend that power and their effective influence by acknowledging and exercising their informal leadership roles within the social networks that exist in their organizations.

LMX theory, social network theory, and social exchange theory. Drawing upon the anthropological research of Shalins (1972), Sparrowe and Liden (1997) strengthen the connection of the dynamic network of leader-member exchange relationships. They identify three main drivers of network exchanges. These drivers, or reciprocities, of relationships fall on a "reciprocity continuum" (p. 525) from a negative self-centered, egocentric exchange, through a balanced mutually beneficial exchange, to one of generalized self-sacrificing and generosity. As the relationships organically move along the continuum, in a flat rather than hierarchical manner, they have the potential to evolve from a level of individual self-interest through and to a selfless level of concern for others (Sparrowe & Liden, 1997). These relationships develop in accordance with social network theory and in line with the creation of informal, resource-driven, social networks (Balkundi & Kilduff, 2005).

Multidimensional social network ties result from strategic leader-member exchange relationships and are useful for cultivating dense social network structures vis-à-vis social exchanges (Cook & Whitmeyer, 1992; Cropanzono & Mitchell, 2005; Lin, 1999, 2002). Several factors contribute to the development of such ties. These include: recognizing the strength of weak ties (Granovetter, 1974) for information exchange, connecting with others, and securing employment; building on strong Simmelian ties (Krackhardt, 1992) to foster triads and increased mutual trust within the leader's immediate circle; and taking advantage of structural holes (Burt,

1992) that offer the potential for bridging unconnected groups to cultivate professional competitive advantage.

Leaders connected advantageously within social networks have the opportunity to capitalize on the multidimensionality of leader-member exchange relationships. They are positioned to serve as intentional boundary spanners and buffers, to mediate and moderate the flow of information, to establish lines of communication, and to control the flow of resources between the open and closed systems of the organization (Brass, 2001). Strategic social network leadership positioning is key to ensuring the structure, quality, and success of the overall organization and towards attaining the Genius Loci, as described in the previous chapter.

School Leadership Re-envisioned in the Context of LMX Theory and Social Network Theory

As described in the previous chapter, schools are designed to operate in rules-based, bureaucratic, hierarchically-structured, factory-based model, which was established in the early 20th Century for very different types of organizations. Those organizations were built upon the assumptions of unskilled labor and an owner-worker system in which "owners" (subsequently replaced by managers) designed systems and procedures to be carried out and monitored by supervisors. In this setting, school leaders, administrators, and staff are assigned to titled roles, and those roles are associated with various responsibilities and degrees of authority in enforcing rules and procedures and fulfilling the goals of their schools. Little has changed in more than decade in that naïve conception of school organization and leadership as held by the public and even some within the educational community.

Although the organizational and leadership structures of schools was based on state-of-the-art thinking about organizations, leadership, and management in the early 1900s, much has

changed in our understanding of organization and leadership. Organizations are now recognized as open systems subject to influences by their external environments, and effective leaders have assumed the responsibility for boundary spanning and buffering to insulate their core technologies from the vicissitudes of the social, economic, and political environment and other external forces that would disrupt the functioning of their core systems as "closed systems."

It is my position that enlightened school leaders have understood for decades that the model they have been assigned to implement is no longer capable of achieving the goals with which they are charged. They have, then, recognized that effective leadership in schools must be grounded in a deeper understanding of the realities of schools today. They have recognized that schools cannot be viewed or operated as factories but must be addressed as heteronomous professional organizations. In contemporary schools operating as professional organizations, the members (e.g., middle-level administrators, professional staff, and teachers) are highly skilled and educated professionals who expect and demand to have a voice and a hand in designing as well as carrying out the work of their school. Enlightened school leaders have also recognized, as reflected in the evolving theories of organization and leadership, that their leadership cannot be locked in the models of the past. Leadership must be both transformative and transactional, and the success of leadership lies in the effectiveness with which they participate in leader-member exchanges and with which school leaders engage their schools' social networks.

In essence, my review concludes that enlightened school leaders are those who operate within two complimentary personas. The first persona, which is externally imposed upon them, is the formally titled leadership role and formal organizational structure with which they have been invested by the formal organizational system. The second persona, which reflects a conscious choice by school leaders and which I suggest represents a new leadership style, is that

of a social-network-aware school leader who recognizes the naturally emergent, informal social networks in their schools and derives additional power and influence from leader-member exchanges and those networks.

Chapter Synthesis

Over the past three decades, the preponderance of LMX theory and social network theory literature has been moving in an aligned direction towards a dependence upon one another. From this convergence emerges the need to re-envision school building leadership and school leader-member exchanges in terms of the school organizational social network. This re-envisioned, school building leader demonstrates an informed awareness, understanding, and role of the power and interrelationships inherent in the school organizational social network. The next chapter presents the research design and methodology on which this dissertation was based in its goal to understand the new, social-network-aware leadership style as it applies specifically to leadership in public schools today.

CHAPTER 3

RESEARCH METHODS AND DESIGN OF THE EXPERIMENT

This study was conducted as a quasi-experiment using OLS and quadratic regression analysis, mixed-effects, multilevel modeling and finite mixture modeling (FMM) to identify the judgment preferences of teachers for public school principals' leadership qualities and to further reveal the unobserved heterogeneity in those preferences as indicated by latent classes of teachers. Finite mixture modeling (FMM) was employed to conduct a form of Social Judgment Analysis (SJA), which is sometimes known as conjoint analysis, and was used to assess the stated preferences and judgments of typical teachers' satisfaction with school building leadership qualities. This research design and the formal research questions presented in this chapter draw upon the relationship between leader-member exchanges in schools' informal social networks, as discussed in detail in the previous chapter. This dissertation extends the application of SJA to the study of teachers' judgments of the qualities of building principal leadership in K-12 public schools.

Research Questions

The research questions that guided this study were formulated to address the critical linkage between traditional leadership perspectives as embodied in LMX theory and the increasing emphasis on the social network perspective of leadership.

- RQ1: What distinct judgment models emerge to describe teachers' views of the qualities of K-12 principal leadership with regard to leader-member exchange and informal networks?
- RQ2: To what extent are selected characteristics of teachers associated with their judgment models?

Organization of the Chapter

The main body of this chapter begins with a brief introduction to the theoretical and methodological foundations of social judgment theory (SJT) and social judgment analysis (SJA), which have been discussed in great detail elsewhere (Cooksey, 1996a, 1996b; Cooksey & Freebody, 1986; Hammond, 1978, 1981; Hammond, Stewart, Brehmer, & Steinmann, 1975; Harmon & Rohrbaugh, 1990; Rohrbaugh, 1981; Stewart, Roebber, & Bosart, 1997). In particular, this discussion concludes with a consideration of the application of SJA in education, as exemplified in prior SJT/SJA research (e.g., Chowske, 2013; Cooksey & Freebody, 1986; McCartt, 1986).

The next section describes the statistical methods and linear modeling techniques (e.g., multiple regression analysis and related visualizations) generally employed in basic SJA. It then discusses the type of data required by SJA and presents an overview of the concepts and techniques of optimal experimental design. The section then describes a more advanced statistical modeling approach to SJA, employing finite mixture modeling (with case-clustered, robust standard errors) to identify latent classes (i.e., finite mixtures) of judgment profiles while accounting for correlated response error.

Theoretical and Methodological Foundations and Assumptions in Social Judgment Theory and Statistical Techniques of Social Judgment Analysis

In this section, I discuss social judgment theory (SJT) as the theoretical foundation for this research. I then describe the methodological and statistical approaches that are employed in social judgment analysis (SJA), which provided the analytic framework employed in this study.

Social Judgment Theory as the Theoretical Foundation of This Study

Social judgment theory (SJT) formed the basis of the theoretical foundation for the research in the design of my study. SJT is a theoretical approach used to gain an understanding

of individual and group decision making and policy formation (Cooksey, 1996a; Hammond 1978; Hammond, Stewart, Brehmer, & Steinmann, 1975). A deeper understanding of the factors involved in individual and group judgments should result in a heightened awareness and improved and more informed decision-making processes (Connolly et al., 2000; Cooksey & Freebody, 1986; Hammond et al., 1975).

SJT evolved in the late 1960's from Brunswik's (1956) probabilistic functionalism and the application of the Lens Model schematic for judgment making (Connolly et al., 2000: Cooksey, 1996b; Cooksey & Freebody, 1986; Hammond et al., 1975; Hammond, 1978; Mumpower & Stewart, 1996; Stewart, Roebber, & Bosert, 1997). Building on the work of Brunswik (1956), and in an attempt to understand the relationships that exist within human judgments, SJT includes the principle of parallel components. This principle analyzes the individual participant's decisions as well as stimuli from the environment (the ecology) to ultimately arrive at the rationale for the resulting judgment (Connelly, 2000; Cooksey & Freebody, 1986; Hammond et al., 1975; Hammond, 1978).

"Achievement," as defined in SJT, is the correlation of environmental stimuli and individual decision factors (Brunswik, 1952; Connolly et al., 2000; Cooksey & Freebody, 1986). Achievement is an important point of consideration for evaluating the judge's performance and accuracy in SJA. There are uncertainties related to each factor, unique to the individual judge and to the environment, which create an uncertainty in the overall judgment. Hammond et al. (1975) referenced the "zone of ambiguity" whereby the individual works through the uncertainty of the depth of information pertaining to the cues, the environment, and their own experiences and biases (Cooksey, 1996).

SJT includes three levels of system design: single, double, and triple system designs. The single-system SJT design assesses the independent value system of the judge. As it does not integrate judgment criterion values for comparative purposes, it does not assess the achievement of the judgment. When environmental criteria are used for comparative purposes, the study is considered a double-system design and offers insight into the impact of the environment on the accuracy and achievement of the judgments. A triple-system design has the ability to measure the achievement of the judge as well as policy similarity (Cooksey, 1996b).

SJT began to be used in a very limited fashion as the theoretical foundation for studies of educational decision making in the mid-1970s. Cooksey and Freebody (1986) sought to expand the educational application of SJT in school districts (macropolicy) and within school classrooms (micropolicy). Through micropolicy studies, classroom teachers are able to assess their own thinking and judgments as they pertain to student academic potential and development. Such studies have incorporated a "cognitive feedback" double-system design, using environmental criterion measures for comparative analysis (Hammond, 1978). In macropolicy studies, the lens model (Brunswik, 1956) has been used to assess policy making and practices. This method is informative for understanding policy. It does not offer direct feedback to the individual, nor insight into the actual thinking of the policy makers (Cooksey & Freebody, 1986).

Social Judgment Analysis as the Methodological Foundation of SJT and This Study

Based on multiple regression analysis and related visualizations in the form of judgment preference line graphs, social judgment analysis (SJA) provides the core methodological foundation for SJT. SJA participants (i.e., judges) may be selected either purposively from a targeted group of participants or non-purposively from a larger pool of individuals who self-select. The basic SJA single-system design characteristically uses a Likert-type response scale

for obtaining holistic judgments from respondents who are presented a series of profiles reflecting varying combinations of values of a finite set of judgment cues. To limit undue stress on the participants (i.e., judges), cues are typically presented in a format that is both familiar to and understood by the participants. Text displays have been found to yield the highest levels of judgment accuracy as they "elicit higher levels of motivation to attend and comprehend the evidence" (Sanfey & Hastie, 1998, p. 103).

In SJA, the judges are presented with a concise series of relevant, statistically representative, "formal situational sampling" of cues in the form of the profiles described above. These cues relate in some manner to both the judgment problem and the environment within which the judgments are made (Cooksey, 1996b; Cooksey & Freebody, 1986, Hammond et al., 1975; Stewart et al., 1997). The judge is required to make a holistic judgment in response to each scenario. Hammond et al. (1975) stressed that the levels of the cues in the profiles in the experimental design should be selected in a way that minimizes the correlation of the cues (Cooksey, 1996b).

Multiple regression analysis allows an a posteriori decomposition of the decision components that make up the holistic judgments (i.e., scores) provided by the participants. Their holistic judgments are then statistically analyzed through multiple regression to determine the preference weight of each cue in the respective participants' judgment policies as well as the form (i.e., linear positive, linear negative, non-linear) of each cue within those policies (Connolly et al., 2000; Cooksey, 1996b; Cooksey & Freebody, 1986; Hammond et al., 1975). Cues may serve different functions, depending upon the judge. These "functional forms" may be linearly positive or negative, or they may result in a spectrum of curvilinear forms. The varieties of

forms reflect both the participants' analyses of the cues and the challenge of the environment (Connolly et al., 2000).

The demographic data, organizing principles, and problem analysis of the judges may also be considered to further understand the depth of the prediction models and policy forms (Hammond et al., 1975; Mumpower & Stewart, 1996). Hammond's (1981) "cognitive continuum" implies that "policy making is quasi-rational, involving a mixture of rational analysis and intuition . . . a trade-off of cues against one another" (Cooksey & Freebody, 1986, p. 18), whereby judges focus on the cues with the highest level of perceived importance.

In SJA studies, respondents are often asked to rank their perception of the importance of each cue in their overall judgment policy prior to providing their holistic judgments in response to the profiles. They are then presented a relatively small (typically 30 to 50) set of profiles to judge and are asked to assign a continuous numerical score within a specified range (e.g., 1-20, 0-100, etc.). This judgment score serves as the dependent variable for multiple regression, and the cues in the profiles function as the independent variables. The dependent variable judgment scores are based upon participants' simultaneous, holistic assessments of the overall combinations of levels of cues included in each scenario (Chowske, 2013; Cooksey, 1996a, 1996b; Cooksey & Freebody, 1986; Hammond, 1978, 1981; Hammond, Stewart, Brehmer, & Steinmann, 1975; Harmon & Rohrbaugh, 1990; Rohrbaugh, 1981; Stewart, Roebber, & Bosart, 1997). In order to ensure a normal distribution, a minimum of 30 judgment profiles producing 30 judgment scores are typically included in an SJA experiment, but that varies across studies.

Social judgment models produced by social judgment analysis (SJA) are typically interpreted in terms of judgment preference weights (using either standardized regression coefficients or unstandardized regression coefficients for variables measured on the same scale),

judgment policy functions (i.e., line graphs showing the effects of specific judgment cues at various levels on the judgment outcome measure), judgment consistency or predictability (based on R^2 or Pseudo- R^2) and the overall judgment strategy these elements compose. Examples of and guidance for interpretations of SJA models can be found in Chowske (2013); Cooksey (1996a, 1996b); Cooksey and Freebody (1986); Hammond (1978, 1981); Hammond, Stewart, Brehmer, and Steinmann (1975); Harmon and Rohrbaugh (1990); Permut (1973); Rohrbaugh (1981); and Stewart, Roebber, and Bosart (1997). Each of these interpretive elements is described in turn below.

The relative preferences for each judgment cue—represented by leadership qualities in this study—were determined by comparing the relative magnitudes of the statistically significant ($\alpha = .05$) unstandardized regression coefficients for each of the cues. Each cue was measured on the same five-point scale in the experimental design. The equivalence of these scales allowed for direct comparison and therefore it was not necessary to standardize the data prior to comparing the regression coefficients.

The functional forms of the judgment preferences analyzed in this study were visualized using separate and combined margins plots to produce line graphs overlaying the functional shapes of the preferences for each judgment cue. Each line reflected the functional shape (linear or curvilinear) and the direction of the effects of the preferences for a given cue by plotting the relationship between the levels of the cues and the satisfaction ratings assigned at each level for each cue.

The consistency with which the judgment preferences were applied and the predictability of effectiveness scores were measured in this study using the R^2 statistic for the regressions produced by the individual regressions in Stage 1, and the SJA regressions for the latent classes

in Stage 4. For Stages 2 and 3, I calculated a pseudo-R^2 as the squared Pearson correlation of the observed scores and the model-predicted scores.

Rational Actor Assumptions in the Context of Unobserved Heterogeneity

As Monroe (1991) observed, the single rational actor assumption of human behavior, judgment, and decision making has been the subject of much discussion and research in classical and neo-classical economics, political analysis, philosophy, human psychology, and other social science disciplines since the writings of Thomas Hobbs (1588–1679) and Adam Smith (1723–1790). Theorists have contended and debated the possibility of predicting the outcome of human behavior and choice based upon the benefit to the "collective welfare" and the underlying presumption that human judgment decisions are always rational (i.e., "goal-directed"). The idea of variability and diversity in human judgment and decision making is a key component with implications in the analysis of SJA research. The tension between the assumption of a single rational actor and the competing assumption of unobserved heterogeneity is considered in more detail in the following two sections.

Single rational actor assumption. Rational actor theory has its origin in classical economics. The behaviors and decision-making processes demonstrated by the single rational actor are the results of the perceptions of the individual and are driven by self-interest, opportunity, and a cost-benefit analysis. The overall assumption asserts that the actions and decisions of the single rational actor can be amassed as reflective and indicative of the perspectives held by an overall population or large group (Lemke, 2014; Monroe, 2001, Monroe & Maher, 1995).

The behaviors and decision-making processes of the single rational actor assumption are driven and governed by conscious choice based upon the highest return, a goal-oriented self-

interest, the preferential rank ordering of choices, and access to vast information. The single rational actor theory assumes that individuals seek to optimize utility. That at some level of aggregation, groups of individuals with shared goals may act as if they were of one mind in seeking to optimize the group's utility. This assumption is a simplifying heuristic that is made out of necessity in an effort to understand groups. As such, this assumption is not empirically grounded or verifiable. It is possible, however, to build upon this assumption by observing a consistent rationality within groups or clusters based on empirical outcomes. Even within those empirically identified groups or clusters, it is still necessary to assume some common rationality as reflected in the single rational actor assumption.

Multiple rational actors assumption. While acknowledging the value of a single rational actor perspective, it is possible to maintain the view of shared beliefs and behaviors but to do so at a lower level of aggregation and to do so with empirical justification. The techniques of latent class analysis, latent profile analysis, and finite mixture modeling enable researchers to identify groups or clusters of people with shared beliefs and behaviors based on empirical observation (Masyn, 2013; McCutcheon, 1987). Within these groups or clusters, it is still assumed that a single rational perspective remains.

The single rational actor assumption is most easily applied to groups or clusters that can be described by known characteristics or variables. For example, scholars in international relations regularly analyze entire nations as if the values of their populations are generally homogeneous and can be understood as those of a single rational actor. Similarly, scholars in gender-based studies apply the single rational actor assumption to clusters of people based on their gender or gender preferences. Scholars in education often apply the single rational actor

assumption in studying the views and behaviors of teachers or school administrators as if they were cohesive groups behaving predictably as single rational actors.

The single rational actor assumption can also be applied, however, to groups or clusters of people who cannot be described by known characteristics or variables. In this case, what distinguishes one cluster or group from another are the patterns of similar observed behaviors or beliefs. Because such groups or clusters do not manifest previously established identities based on known characteristics or variables they can only be identified after the fact based on observed outcomes. These groups or clusters are said to represent an unknown, hidden, or unobserved latent variable—which likely has not been identified and labeled before.

Heterogeneity may exist either in the form of observed heterogeneity (as occurs when groups or clusters are based on known variables) or in the form of unobserved heterogeneity (as occurs when diverse groups or clusters are based solely on their observed behaviors after the fact). In either case, it is necessary to make the single rational actor assumption in order to understand the shared values and utilities of the group members. Following Coleman (1984) and Lemke (2014), this study assumed that teachers as a monolithic population defined by a known variable—their professional title—could not reasonably be assumed to hold a single, consistent view of school leadership except at the most general level. Rather, this study assumed that teachers' views about school leadership vary across latent clusters or subgroups based on unobserved heterogeneity.

With this background, I next introduce the research design by which this study revealed judgment models of teachers' preferences concerning school leadership and by which clusters of teachers with similar judgment profiles were identified. This section includes the discussion of

study participants and the measures used to discover the participants' judgment profiles. It also describes the statistical methods, techniques, and criteria used in the study.

Study Participants and Sampling Approach

The sample size of this study each individual case responded to 36 item responses (scenarios), *N* = 7,632 observations, comprising each of the 212 individual cases. Individual case responses can be found in Appendix A. As seen in Figure 3.1, the overall demographic data revealed a normal distribution curve of teaching experience, ranging from one year to 43 years, with *M*= 18.61 years teaching experience.

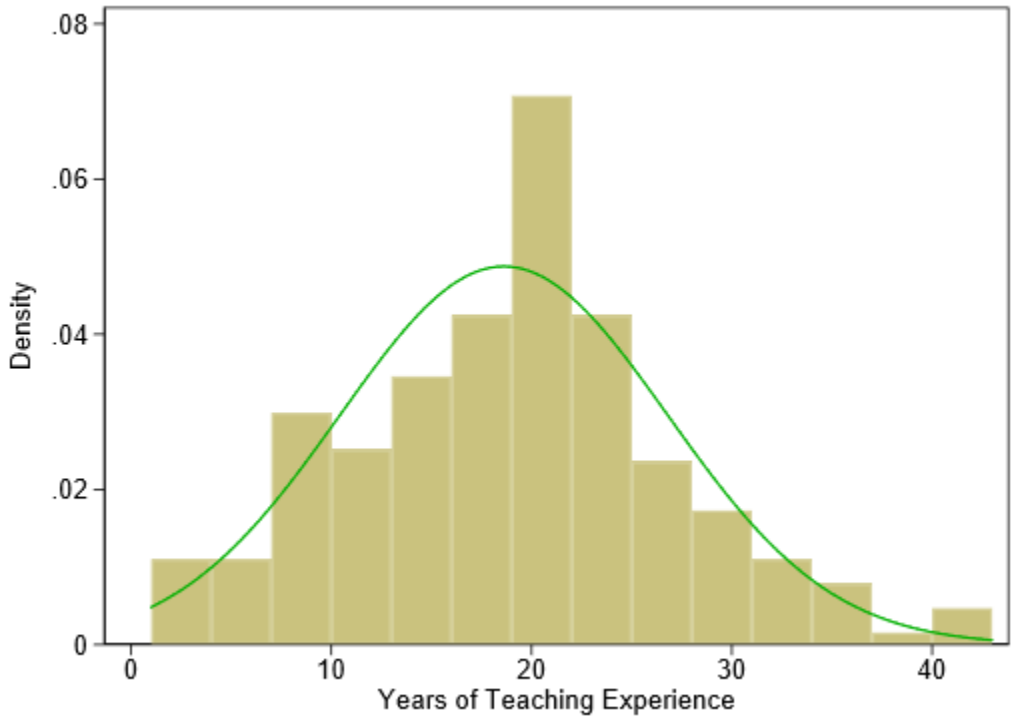

Figure 3.1. The *ND* of overall years of teaching experience as reported by *N* = 212 respondents. μ = 18.61 years of teaching experience.

All respondents were current or recent New York State public school K-12 teachers. High School teachers were *n* = 66 and teachers of Grades K-6 were *n* = 147. The median grade level taught by the overall sample was Grade 7. Respondents demonstrated a variety of

educational levels: n = 118 holding a Master's degree plus additional credits, n = 41 Master's degrees only, n = 34 having additional certificates and professional diplomas, an n = 1 pursuing a Doctorate, and n = 18 holding a Doctoral degree. Of the overall group, $n = 138$ aspire to secure an administrative position within the next five years, while a total n = 74 are either uncertain or have no administrative aspirations.

Data from the survey were analyzed and disaggregated using linear combinations of cue coefficients collected (combined quadratic equations for cues in each latent class), latent class probabilities tables, margins and combo-margins plots for curvilinear equations, observed and predicted judgment policy graphs, judgment preferences models, and combined-judgment preferences models graphs. The results of the data analysis along with the accompanying tables, charts, plots, and graphs are presented, in detail, in Chapter 4.

Participation in the study took place through an anonymous, voluntary, online survey that was shared indirectly through social and professional media accounts, professional listservs, and via word-of-mouth recommendations from participants willing to recruit other teaching professionals to participate. This study used a purposive, snowball sampling approach to recruit typical teachers in K-12 public schools across New York State. There were no further restrictions placed upon acceptable participants beyond that of being a current or recent teacher.

Measures

The variables employed in this study included a single continuously measured dependent variable, five judgment cues employed as the independent variables, and several covariates reflecting the general backgrounds and demographic characteristics of the respondents. The study also collected and analyzed semi-structured narrative responses to an open-ended question

allowing participants to offer additional insights and observations in their own words about their views of school leadership. Each of these measures is described in detail in the sections below.

Dependent Variable: Leadership Effectiveness

The dependent variable (i.e., score) was a respondent-provided judgment score. This judgment score reflects the teacher-respondents' perceptions of the leadership effectiveness they would expect from each of 36 hypothetical leaders, who are described in the experiment as having various levels of five selected leadership characteristics described below in the section on independent variables. As seen in Figure 3.2, this outcome variable is measured on a continuum ranging from 1 (-5 = *completely ineffective*) to 11 (5 = *completely effective*), a scale that was chosen because I expected it to be familiar to the teacher-respondents in the study.

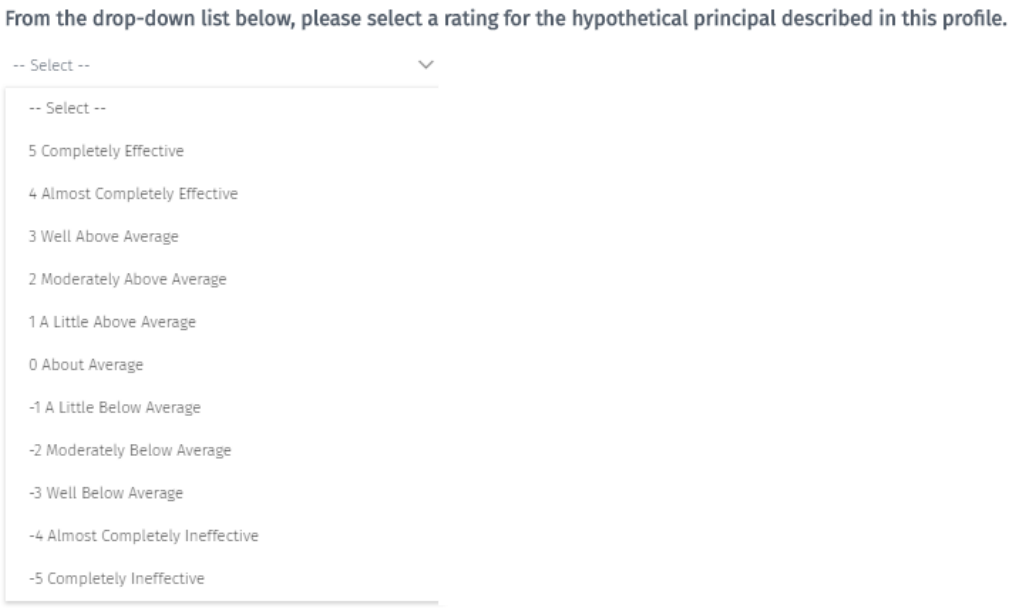

Figure 3.2. Example of the scale used by the respondents to score the hypothetical judgment profiles based on their view of the likely leadership effectiveness of a K-12 public school principal for each of the hypothetical profiles. The full survey is presented in Appendix B.

Independent Variables: Leadership Qualities

The independent variables comprise five judgment cues reflecting characteristics of hypothetical leaders. These characteristics include the four dimensions of leadership described in LMX theory, as discussed in Chapter II: (a) contribution, (b) loyalty, (c) affect, and (d) professional respect (Dansereau, et. al., 1975; Dienesch & Liden, 1986; Liden & Maslyn, 1998; Greguras & Ford, 2006). A fifth independent variable represented an additional characteristic describing the hypothetical leader's conceptions of organizational boundaries and the willingness to work beyond formal roles and structures. The latter reflects the degree to which the hypothetical leader works beyond formal boundaries and embraces the informal networks (i.e., naturally emergent social networks) within the organization. This cue, which is not typically included with the dimensions of LMX, was incorporated in the study in an effort to capture the impact of the social network-related attitudes, skills, and behaviors of the hypothetical leaders being judged in the experiment.

Although the formal labels of the four LMX dimensions have been used in the theoretical discussion of leader-member exchange, I did not believe they would be immediately clear to the teacher-respondents in this study. I, therefore, developed the following more descriptive labels for the LMX dimensions for use in the survey. I also developed a descriptive label for the social network-related characteristic. The five qualities of leadership (with variable names) used in this study were, therefore, as follows:

- Deserving of my effort, representing the contribution dimension of LMX (contribution);
- Loyal to me, representing the loyalty dimension of LMX (loyalty);
- Likeable, representing the affect dimension of LMX (affect);

- Knowledgeable and competent, representing the professional respect dimension of LMX (respect); and
- Works beyond formal structure and roles, representing social network-related attitudes, skills, and behaviors (network).

Each of these five independent variables (i.e., judgment cues) is measured on a scale with values of 1 = *far below average*, 2 = *below average*, 3 = *just about average*, 4 = *above average*, and 5 = *far above average*. These cues are technically measured on an ordinal scale, but, consistent with analytic practice in social judgment analysis, they were presumed to reflect underlying continua and were, therefore, analyzed as continuous variables.

The basis of the study assumes that there is a standard of satisfaction that teachers hold for assessing their school building principals, although that standard may differ across unobserved subpopulations of teachers as reflected in unobserved heterogeneity and latent classes. This standard is not demonstrated through one specific, independent, leadership style but a combination and distribution of the five defined leadership cues. The second assumption lies in the premise that there is a willingness to pay, or to trade-off one or more qualities for the increase in others to equate to satisfaction with the overall leadership profile and it is a matter of how much the teacher is willing to trade and for which leadership quality. This forced trade-off of cues most resembles real-world decision making (Auspurg & Hinz, 2015).

Covariates: Teacher-Related Attributes

The following teacher-related attributes were included in the study to provide a contextual basis for the analysis of the typical teacher respondent. These variables served as covariates for explaining the unobserved heterogeneity reflected by the latent classes identified

through the finite mixture modeling procedure described below. Each of these teacher-related attributes is described, in turn, next.

- Teaching experience (exper): the years of full-time teaching experience as a continuous variable in all years.
- Current or most recent grade level (grade): the current or most recent grade taught (analyzed as a categorical variable).
- Education (degree): the highest degree completed (analyzed as a categorical variable), with the following response categories.
    - Master's degree(s)
    - Master's degree(s) plus additional credits
    - Advanced Certificate or Professional Diploma
    - Doctoral degree
    - Other (Please specify)
- Administrative aspiration (admin): Do you hope to secure an administrative school leadership position within the next 5 years? (as a categorical variable), with the following response categories.
    - Yes
    - No
    - Not Sure

Narrative-Response Variable: Semi-Structured, Open-Ended Narrative Comments

The following optional, semi-structured, open-ended, narrative-response question was included to obtain additional insights to aid in the interpretation of the results from the quantitative analyses:

In the space below, please provide any other insights or comments you wish to share with me about the characteristics that you believe describe an effective leader in a school including your grade level.

Design of the Experiment

For this experiment I chose a social judgment analysis (SJA) single-system model and employed optimal experimental design techniques (Abd-El-Hafez, 2015; Auspurg & Hinz, 2015; Kitsos, 2014; Street & Burgess, 2007; Wheeler, 2013) in the construction of the experimental factors (as described in detail below). The designs of traditional SJA studies have typically included samples of profiles drawn from full factorial designs that include all possible combinations of the levels of the judgment cues (i.e., independent variables). In previous SJA studies, the samples of profiles to be included in the experimental design have been selected in a variety of ways including non-probability, purposive sampling; random probability sampling; or pre-existing sampling designs known to reflect desirable design characteristics (Brownlee, Kelly, & Loraine, 1948). The quality of these research designs, by necessity, has generally been suboptimal due to logistical and practical constraints. More recently, scholars of decision and choice theory have typically employed the formal techniques of optimal experimental design (Abd-El-Hafez, 2015; Auspurg & Hinz, 2015; Kitsos, 2014; Street & Burgess, 2007), or OED, to create fractional factorial designs for discrete choice experiments or SJA studies.

OED can be used to provide an optimal experimental design where the SJA profiles include sets of judgment cues whose distributions are optimal (i.e., balanced, orthogonal, and representative) within the constraints of the survey and based on maximizing D-efficiency (Abd-El-Hafez, 2015; Aizaki, Nakatani, & Sato, 2015; Auspurg & Hinz, 2015; Chagares, 2015; Kitsos, 2014; Louviere & Hensher, 2000; Street & Burgess, 2007). D-efficiency measures the

"goodness" of the experimental design, reflecting both "orthogonality" (as called for by Hammond et al., 1975) and "balance" of all combinations of levels of the factors (Auspurg & Hinz, 2015), minimizing the variance and maximizing the information.

A third condition for the goodness of an experimental design is "coverage," which indicates the degree to which all levels of each factor are represented in a fractional factorial design. (Coverage is, of course, guaranteed in a balanced design, so this third condition is often omitted in discussions of the goodness of research designs.) The values of D-efficiency statistics are relative and depend upon the design characteristics of specific studies, so they have no absolute interpretation or criterion levels. Rather, a specific experimental design that presents the maximum D-efficiency within a given study's parameters and constraints (i.e., number and levels of factors or cues) provides the optimal or best possible research design (Auspurg & Hinz, 2015). The profiles included in the experimental design for this study were, therefore, selected through OED based on maximized D-efficiency.

A full factorial design for this study containing the 5 cues (i.e., the leadership characteristics described above) with 5 levels each would require 3,125 profiles or scenarios. The inclusion of this full factorial design in a survey would have been prohibitive in terms of the cognitive burden placed on respondent and the time required to complete the survey. Therefore, a fractional factorial design was required and a set of 36 leadership profiles reflecting five cues with five levels each was selected. Each combination of particular levels of the five leadership qualities represents a single, hypothetical, Grades K-12, school principal whose effectiveness was to be judged by the teacher-respondents in this study. Figure 3.3 presents an example of the format of one such leader profile (i.e., combination of levels of the five leadership characteristics) as presented in the study's survey.

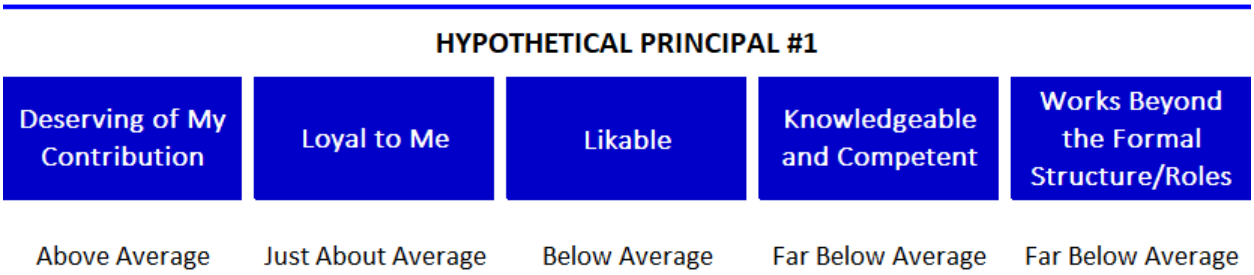

Figure 3.3. Example of a judgment profile to be scored by survey respondents based on their view of the likely effectiveness of a K-12 public school principal with this combination of leadership qualities. The full survey is presented in Appendix B.

The fractional factorial design was produced with R-Studio version 1.1.447, R version 3.5.0, and the AlgDesign (Algorithmic Experimental Design) version 1.1-7 package for R (Wheeler, 2013). This software produced an experimental design based on researcher-provided criteria in terms of numbers and levels of experimental factors. It ensured that the design is D-optimal. The design matrix employed in the fractional factorial design in this experiment is shown in Table 3.1.

Table 3.1

D-Optimal Fractional Factorial Design Matrix for 36 Hypothetical Leadership Profiles

Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
4	3	2	1	1
1	2	3	2	1
5	1	5	3	1
3	5	4	4	1
2	4	1	5	1
3	4	2	1	2
4	1	3	1	2
2	2	2	2	2
5	5	4	2	2
2	3	3	3	2
3	2	5	3	2

1	4	1	4	2
1	1	1	5	2
5	3	5	5	2
5	2	1	1	3
2	5	5	1	3
3	3	4	2	3
4	5	1	3	3
1	4	4	3	3
5	1	2	4	3
4	2	5	4	3
1	3	2	5	3
3	4	3	5	3
1	5	5	1	4
3	1	1	2	4
5	4	3	3	4
2	3	1	4	4
5	5	2	5	4
4	2	4	5	4
5	3	1	1	5
2	1	4	1	5
4	4	5	2	5
4	5	1	3	5
1	2	2	3	5
1	5	3	4	5
3	2	3	5	5

Note. Key: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*. Factor 1 = Deserving of My Contributions; Factor 2 = Loyal to Me; Factor 3 = Likable; Factor 4 = Knowledgeable and Competent; Factor 5 = Works Beyond Formal Structure and Roles. D-efficiency = 0.140.

The fractional factorial design evaluation confirmed the goodness of the design (Auspurg & Hinz, 2015). The fractional factorial design evaluation confirmed that each of the five judgment cues (i.e., factors) were distributed relatively equally in the design with optimal coverage, balance and proportionality of pairs, and orthogonality. As evidence of uniqueness, each design profile has a frequency of 1 and represents 2.78% of the fractional factorial design points. The relatively high, non-statistically significant *p*-values in the inter-factor correlation

matrix of the proposed design, shown in Table 3.2, provide evidence that the experimental factors are orthogonal.

Table 3.2

Pearson Correlation Matrix of Attribute Levels in the 36 Hypothetical School Principal Profiles

	Worthy of My Contributions (1)	Loyal to Me (2)	Likable (3)	Knowledgeable and Competent (4)	Works Beyond Formal Structure/Roles (5)
1	1.00				
2	-0.04 0.81	1.00			
3	0.08 0.64	0.05 0.79	1.00		
4	-0.08 0.65	0.04 0.81	-0.09 0.59	1.00	
5	0.01 0.94	0.09 0.61	-0.07 0.68	-0.01 0.93	1.00

Note. Statistical significance (*p*) is shown below each correlation coefficient (*r*).

The overall evaluation of the balance of all combinations of levels and factors of the design matrix employed in the fractional factorial design in this experiment is shown in Table 3.3. A visual inspection of this table shows the relatively high degree of balance of each level of each attribute with each level of the other attributes. This degree of balance was expected, because the fractional factorial design was developed based on D-optimal principles.

Table 3.3

Fractional Factorial Design Evaluation of Balance for the Attribute Levels in the 36 Hypothetical School Principal Profiles

	C With					L With				A With			PR With	
	L	A	PR	N		A	PR	N		PR	N		N	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	2	1	2	2	1	4	1	2	1	1	2	1	1	2
1	2	2	3	2	1	1	2	2	1	2	2	1	1	2
1	3	2	3	3	1	3	3	3	1	3	3	1	1	3

1	4	3	4	3		1	5	4	4		1	3	3		1	3
1	4	3	4	4		1	2	5	5		1	4	4		1	4
1	5	4	5	5		2	2	1	1		1	4	4		1	5
1	5	5	5	5		2	3	2	2		1	5	5		1	5
2	1	1	1	1		2	2	2	2		1	5	5		2	1
2	2	1	1	2		2	3	3	3		2	1	1		2	2
2	3	2	2	2		2	5	3	3		2	1	2		2	2
2	3	3	3	3		2	4	4	4		2	2	2		2	3
2	4	4	4	4		2	5	5	5		2	3	3		2	4
2	5	5	5	5		2	1	5	5		2	4	3		2	5
3	1	1	1	1		3	2	1	1		2	5	4		3	1
3	2	2	2	2		3	1	1	2		2	5	5		3	2
3	2	3	2	2		3	3	2	2		3	1	1		3	2
3	3	3	3	3		3	4	3	3		3	2	2		3	3
3	4	4	4	3		3	2	4	3		3	3	2		3	3
3	4	4	5	4		3	1	5	4		3	3	3		3	4
3	5	5	5	5		3	5	5	5		3	4	4		3	5
4	1	1	1	1		4	4	1	1		3	5	5		3	5
4	2	1	1	2		4	1	2	2		3	5	5		4	1
4	2	2	2	3		4	1	3	2		4	1	1		4	2
4	3	3	3	3		4	3	3	3		4	2	2		4	3
4	4	4	3	4		4	2	4	3		4	2	3		4	3
4	5	5	4	5		4	5	5	4		4	3	3		4	4
4	5	5	5	5		4	3	5	5		4	4	4		4	5
5	1	1	1	1		5	5	1	1		4	5	5		5	1
5	1	1	1	2		5	3	1	2		5	1	1		5	2
5	2	2	2	2		5	5	2	3		5	1	2		5	2
5	3	2	3	3		5	4	3	3		5	2	2		5	3
5	3	3	3	3		5	1	3	4		5	3	3		5	3
5	4	4	4	4		5	1	4	4		5	3	3		5	4
5	5	5	5	4		5	4	4	5		5	4	4		5	4
5	5	5	5	5		5	2	5	5		5	5	5		5	5

Note. Key: C = Deserving of My Contributions; L = Loyal to Me; A = Likable; PR = Knowledgeable and Competent; N = Works Beyond Formal Structure and Roles. 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

Optimal coverage indicates the degree to which all levels of each factor are represented in a fractional factorial design and is reflected in a balanced design. The overall evaluation of the coverage of all factors of the design matrix employed in the fractional factorial design in this experiment is shown in Table 3.4.

Table 3.4

Fractional Factorial Design Evaluation of Coverage for the Attribute Levels in the 36 Hypothetical School Principal Profiles

Deserving of My Contribution	Frequency	%	Cumulative frequency	Histogram
1	8	22.22	22.22	********
2	6	16.67	38.89	******
3	7	19.44	58.33	*******
4	7	19.44	77.78	*******
5	8	22.22	100.00	********
Total	36	100.00		

Loyal to Me	Frequency	%	Cumulative frequency	Histogram
1	6	16.67	16.67	******
2	8	22.22	38.89	********
3	7	19.44	58.33	*******
4	7	19.44	77.78	*******
5	8	22.22	100.00	********
Total	36	100.00		

Likable	Frequency	%	Cumulative frequency	Histogram
1	9	25.00	25.00	*********
2	7	19.44	44.44	*******
3	7	19.44	63.89	*******
4	6	16.67	80.56	******
5	7	19.44	100.00	*******

Total	36	100.00		

Knowledgeable and Competent	Frequency	%	Cumulative frequency	Histogram
1	8	22.22	22.22	********
2	6	16.67	38.89	******
3	8	22.22	61.11	********
4	6	16.67	77.78	******
5	8	22.22	100.00	********
Total	36	100.00		

Works Beyond Formal Structure and Roles	Frequency	%	Cumulative frequency	Histogram
1	5	13.89	13.89	*****
2	9	25.00	38.89	*********
3	9	25.00	63.89	*********
4	6	16.67	80.56	******
5	7	19.44	100.00	*******
Total	36	100.00		

Note. Factor level key: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

Data Collection

Data on the outcome variable, independent variables, and covariates for this experiment, as well as qualitative insights and open-ended narrative comments, were collected via an anonymous, voluntary, online survey using a cloud-based software hosted by QuestionPro.com (https://principalleadershipqualities.questionpro.com). Participants were invited both directly and indirectly to participate, through email, social media, online discussion boards, professional contacts, (principals and others school professionals invited teachers to participate by forwarding

a link to the survey), word-of-mouth/snowball techniques, and other forms of common communication and social media. The data set was archived on a secure, password-protected, server, and only I and my faculty advisor had access to the data.

The survey instrument, which was pre-approved (exempt) by the Long Island University Institutional Review Board on November 6, 2019, as discussed below, is shown in the complete set of screen shots in Appendix A. The survey contained five sections: (a) introduction and letter of informed consent, (b) leadership qualities, cue definitions, and preference ranking, (c) leadership profiles, and (d) general background questions.

The introduction provided potential respondents with the purpose, nature, and intent of this study, and offered them the opportunity to provide informed consent to participate by pressing either a button labeled "Agree to Participate" or a button labeled "Decline to Participate." The letter of informed consent advised the respondents of their rights and protections and provided contact information for additional information about the study and their rights. Respondents were advised that their participation was voluntary and that they had the right to exit the survey at any time. The respondents were reminded that, as the survey was anonymous, they would not be able to be identified at any time and that the findings would be reported only in aggregate form.

The second and third sections of the survey provided respondents with the definitions of the leadership cues described above and asked that they rank them according to their preferences for leadership qualities. Respondents first assigned a preference ranking to each of the individual 5 leadership cues. This preference ranking was relative to the leadership cue's importance to the respondent's overall judgment of leadership effectiveness within school leadership in general.

As the core component of this study, respondents were then asked to judge the leadership quality profiles of 36 hypothetical school principals and assign to each a score representing their perception of how effective each hypothetical school principal would be in a school building that includes their grade level. They were asked to provide a judgment score ranging from 0 (*completely ineffective*) to 100 (*completely effective*).

The fourth section of the survey asked respondents for broad background information that could not identify them or their school in any way. The following questions and response options were included in this section of the survey.

- Teaching Experience: As of the end of the current school year, how many years of full-time teaching will you have completed?
- Grade Level: What is the current or most recent grade that you taught?
    - Pre-K, K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Education: What is your highest completed degree?
    - Master's degree(s)
    - Master's degree(s) plus additional credits
    - Advanced Certificate or Professional Diploma
    - Doctoral degree
    - Other (please specify)
- Administrative Aspiration: Do you hope to secure an administrative school leadership position within the next 5 years?
    - Yes
    - No
    - Not Sure

Data Analysis Process and Procedures

The data analyses employed in this research reflected a multi-method approach with four stages of quantitative analysis and a single stage of qualitative analysis. These sets of procedures are discussed in turn below.

Quantitative Data Analysis Process and Procedures

The quantitative data obtained through the anonymous, online survey were analyzed using Stata/IC version 15.1, which was also used to create graphic visualizations to supplement the analyses. The user-written Stata add-on program radar.ado (Mander, 2018) was used to create radar (spider) plots for additional visual analyses of the quantitative results from the regression models produced for the latent classes identified through finite mixture modeling (as explained below). Microsoft Excel from Microsoft Office version 2016 was used to aid in the formatting of tabular data, but Excel was not used for any calculations or analyses.

The quantitative data analysis process was conducted in four stages. First, a social judgment analysis (SJA) was conducted using both OLS and quadratic regression on the respondent cases individually. Second, an SJA was developed for the single rational actor model using two-level, mixed effects, multilevel modeling (MLM) conducted on the overall sample, combining all 212 respondent cases. Third, finite mixture modeling (FMM) with quadratic regression analysis was conducted to reveal any unobserved heterogeneity in the overall sample in the form of latent classes. Fourth, the observations classified into the respective latent classes by FMM were analyzed as distinct SJAs for each of the separate sub-samples using ordinary least squares (OLS) regression analysis.

First stage of quantitative data analysis: Individual regression analyses. In the first stage, each of the 212 cases providing 36 observations was analyzed individually with OLS

regression and also with quadratic regression. The models used in this foundational stage were specified as a traditional OLS regression and then as a quadratic regression, respectively, as shown below:

$$\mathbf{score = a + b1(contrib) + b2(loyal) + b3(affect) + b4(respect) + b5(network) + \varepsilon}$$

and

$$\mathbf{score = b1(contrib) + b2(contrib^2) + b3(loyal) + b4(loyal^2) + b4(affect) + b5(affect^2) + b6(respect) + b7(respect^2) + b8(network) + b9(network^2) + \varepsilon}$$

where score = perceived leadership effectiveness, contrib = LMX:contribution, loyal = LMX:loyalty, affect = LMX:affect, respect = LMX:professional respect, and network = social network-related attitudes, skills, and behaviors.

Margins plots were produced to display the observed and predicted (i.e., modeled) policy functions that compose the SJA judgment strategy for each respondent. These individual SJA models and margins plots were reviewed to provide foundational information about the judgment policies and strategies of the individual respondents who participated in the study.

Second stage of quantitative data analysis: Mixed effects, multilevel modeling. In the second stage, a single rational actor social judgment analysis (SJA) was conducted using a two-level, mixed effects, multilevel model where the respondents' leadership effectiveness scores on each of the 36 hypothetical leader profiles were clustered within respondent ID. Wald χ^2 was calculated as the primary measure of the goodness of fit of this model with an acceptance criterion for statistical significance set at $\alpha = .05$. As a second indicator of goodness of fit, a Pseudo R^2 was estimated for this model by calculating the square of the Pearson correlation between the observed leadership effectiveness scores and the scores predicted by the multilevel model. In addition to serving as a secondary goodness of fit indicator, this Pseudo R^2 was used

as an indicator of the consistency with which the single rational actor judgment strategy was applied. To determine the effects of four selected covariates (teaching experience, teaching at the high school level in Grades 9-12, holding a doctorate, and aspiring to a leadership position in the next five years) on the application of the five leadership qualities, the MLM specification included interaction terms for each covariate-leadership quality combination. The following mixed-effects, MLM was specified:

$$\mathbf{score_{ij} = \beta1_{ij}(contrib) + \beta2_{ij}(loyal) + \beta3_{ij}(affect) + \beta4_{ij}(respect) + \beta5_{ij}(network) + \beta6_{ij}(teachXcontrib) + \beta7_{ij}(hsXcontrib) + \beta8_{ij}(docXcontrib) + \beta9_{ij}(aspireXcontrib) + \beta10_{ij}(teachXloyal) + \beta11_{ij}(hsXloyal) + \beta12_{ij}(docXloyal) + \beta13_{ij}(aspireXloyal) + \beta14_{ij}(teachXaffect) + \beta15_{ij}(hsXaffect) + \beta16_{ij}(docXloyal) + \beta17_{ij}(aspireXloyal) + \beta18_{ij}(teachXrespect) + \beta19_{ij}(hsXrespect) + \beta20_{ij}(docXrespect) + \beta21_{ij}(aspireXrespect) + \beta22_{ij}(teachXnetwork) + \beta23_{ij}(hsXnetwork) + \beta24_{ij}(docXnetwork) + \beta25_{ij}(aspireXnetwork) + \varepsilon_{ij}}$$

where score = perceived leadership effectiveness, contrib = LMX:contribution, loyal = LMX:loyalty, affect = LMX:affect, respect = LMX:professional respect, and network = social network-related attitudes, skills, and behaviors. Margins plots were produced to display the observed and predicted (i.e., modeled) policy functions that compose the SJA judgment strategy for the single rational actor model.

Third stage of quantitative data analysis: Finite mixture modeling. The third stage of the data analysis involved conducting finite mixture modeling (FMM) with case-clustered robust standard errors to identify and analyze the unobserved heterogeneity within the overall sample. FMM with quadratic regression was used to determine the number of latent classes (i.e., subsets of cases with similar judgment strategies within the overall sample) and to develop SJA models

of judgment preferences for each of those latent classes. The quadratic regression specification was employed to account for the curvilinear functions in the judgment preference policies within the several models. The following finite mixture model (FMM) with quadratic regression was specified and estimated:

$$\mathbf{score_{ij} = \beta 1_{ij}(contrib) + \beta 2_{ij}(contrib^2) + \beta 3_{ij}(loyal) + \beta 4_{ij}(loyal^2) + \beta 5_{ij}(affect) + \beta 6_{ij}(affect^2) + \beta 7_{ij}(respect) + \beta 8_{ij}(respect^2) + \beta 9_{ij}(network) + \beta 10_{ij}\,(network^2) + \varepsilon_{ij}}$$

with robust standard errors clustered by respondent, where score = perceived leadership effectiveness, contrib = LMX;contribution, loyal = LMX:loyalty, affect = LMX:affect, respect = LMX:professional respect, and network = social network-related attitudes, skills, and behaviors.

The core quadratic regression models specified in FMM were then simplified by conducting an OLS regression analysis on those observations assigned to each latent class identified through FMM. These OLS regression models were specified as:

$$\mathbf{score_{ij} = b1_j(contrib_{ij}) + b2_j(loyal_{ij}) + b3_j(affect_{ij}) + b4_j(respect_{ij}) + b5_j(network_{ij}) + e_{ij}}$$

where i = individual observation and j = latent class and where standard errors were clustered on cases to account for within-case correlations.

To classify observations into the respective latent classes, the following multinomial logistic regression model was specified:

$$\mathbf{logit(latent\ class_j) = a_j + b1_j(teaching\ experience_{ij}) + b2_j(high\ school\ level_{ij}) + b3_j(administrative\ aspiration_{ij}) + e_{ij}}$$

The general purpose and techniques of FMM are discussed in great detail elsewhere (Green, 2017; Hagenaars & McCutcheon, 2002; Jedidi, Jagpal, & DeSarbo, 1997; Leisch, 2004; Masyn, 2013; McCutcheon, 1987; McLachlan & Peel, 2000, 2004; Muthen & Shedden, 1999) and will not be further described here. It is important, however, to address how the FMM

analytic plan addressed the potential for correlated-response error due to the within-subjects nature of the data.

One of the potential limitations of using FMM for the judgment analysis in this study was the correlated-response problem created by collecting within-subjects measures (i.e., 36 rating scores) from each individual respondent. This problem, which tends to produce underestimated standard errors, inflates Type I error and may cause the null hypothesis to be rejected incorrectly; that is, unless properly addressed, correlated responses may lead to false positive conclusions. To control for potential correlated-response error due to the within-subjects measures obtained for 36 profiles from each respondent, the vce (cluster, *caseID*) option in Stata was used with FMM to estimate case-clustered robust standard errors. The specification of case-clustered robust standard errors is necessary to control for the effects of correlated-response bias created when individual subjects provide multiple observations (i.e., when the respondents each provided 36 judgment scores).

The analysis plan also specified criteria by which to determine the number of latent classes to be identified and analyzed using FMM. The first criterion was to select in the FMM the number of latent classes that produces the lowest Bayesian information criterion (BIC) and lowest Akaike information criterion (AIC). The second criterion was that any conflict between the results of the BIC and AIC criteria would favor the model specification that produces the lowest BIC (which is more conservative than AIC). The third, and most influential, criterion was to select the model specification that was found to be most consistent with theory (i.e., to achieve theoretical alignment).

Fourth stage of quantitative data analysis: Regression analyses for each latent class. In the fourth stage of the data analysis, the 7,632 observations (i.e., 36 observations from each of

212 respondents) were classified into specific latent classes based on their largest posterior class membership probability identified by finite mixture modeling (FMM) during the third stage. Then quadratic and OLS regression analyses were conducted for each sub-sample of observations (i.e., latent class). The models used in this stage were specified as shown below:

$$\mathbf{score = a + b1(contrib) + b2(loyal) + b3(affect) + b4(respect) + b5(network) + \varepsilon}$$

and

$$\mathbf{score = b1(contrib) + b2(contrib^2) + b3(loyal) + b4(loyal^2) + b4(affect) + b5(affect^2) + b6(respect) + b7(respect^2) + b8(network) + b9(network^2) + \varepsilon}$$

where score = perceived leadership effectiveness, contrib = LMX:contribution, loyal = LMX:loyalty, affect = LMX:affect, respect = LMX:professional respect, and network = social network-related attitudes, skills, and behaviors.

Margins plots were then produced to display the observed and predicted (i.e., modeled) policy functions that compose the SJA judgment strategy for each latent class.

Interpretive approaches and criteria used in the SJAs in all four stages. A common set of approaches and criteria was employed in interpreting the SJA results in all four quantitative data analysis stages described above. The relative preferences for each judgment cue—represented by leadership qualities in this study—were determined by comparing the relative magnitudes of the statistically significant ($\alpha = .05$) unstandardized regression coefficients for each of the cues. Each cue was measured on the same five-point scale in the experimental design. The equivalence of these scales allowed for direct comparison and therefore it was not necessary to standardize the data prior to comparing the regression coefficients.

The functional forms of the judgment preferences analyzed in this study were visualized using separate and combined margins plots to produce line graphs overlaying the functional shapes of the preferences for each judgment cue. Each line reflected the functional shape (linear or curvilinear) and the direction of the effects of the preferences for a given cue by plotting the relationship between the levels of the cues and the satisfaction ratings assigned at each level for each cue.

The consistency with which the judgment preferences were applied and the predictability of effectiveness scores were measured in this study using the R^2 statistic for the regressions produced by the individual regressions in Stage 1, and the SJA regressions for the latent classes in Stage 4. For Stages 2 and 3, I calculated a pseudo-R^2 as the squared Pearson correlation of the observed scores and the model-predicted scores.

Qualitative Data Analysis Process and Procedures

In addition to the 4-stage quantitative data analysis plan, the study also included a series of qualitative data analysis procedures. This involved analyzing the open-ended, semi-structured narrative responses using traditional qualitative hermeneutics, key word frequencies, and the spatial statistical techniques of multidimensional scaling and co-occurrence network analysis. The results of this mixed approach to qualitative analysis were used to provide insight in interpreting the quantitative results in the finite mixture modeling components of the study. The public domain software KH Coder version 3a.16 (2019) was employed in analyzing the qualitative data from the open-ended, semi-structured, narrative response question based on word frequencies and co-occurrences using multidimensional scaling (MDS) and co-occurrence network analysis. Multidimensional scaling maps and semantic network graphs were produced

using KH Coder as part of the computer-aided content analysis of the qualitative data from the narrative responses.

The qualitative data responses to the open-ended narrative survey question were reviewed multiple times in the traditional manner used for qualitative data analysis. Upon extensive review and reflection in a process of continuous comparative analysis, several key themes and insights were identified. These themes provided the framework for additional interpretation of the quantitative data as reflective of similar characteristics associated with the identified latent classes, as well as for computer-aided analysis of the narrative text.

KH Coder was used to further analyze the narrative text and to produce empirical evidence to further validate the interpretative findings and identification of qualitative themes. The narrative text was initially prepared for pre-processing. An Excel file of the text was screened for word characteristics and part of speech to determine and establish contextual meaning. Non-key words (i.e., stop words) such as “a,” “an,” and “the” were removed from the analysis. From the remaining words, a list of frequent words and context were generated, which was further distilled down to the top 24 key words used 5 or more times in the narrative text.

The word frequency list provided the key words, their parts of speech, and word frequency. Using the Key Words in Context (KWIC) analysis procedures in KH coder, the contexts of the key words in situ were used to further analyze the resulting qualitative themes and to highlight their existence in direct quotes associated with each theme. Multidimensional scaling (MDS) was used to conduct a cluster analysis of co-occurring key words with a minimum occurrence frequency of six times. MDS was used to identify spatial dimensions (i.e., latent variables) and to indicate relative positions of clusters of key words based upon word similarities and dissimilarities. The clusters of words were color-coded and individual words

were represented by bubbles of varying sizes based upon frequency. The center of the bubble indicated the precise location of the word in the dimensions and revealed the proximity of words to one another. The MDS plot allowed for a word co-occurrence analysis to determine the words that were often used together in context.

The co-occurrence network analysis provided a diagram of associated words appearing in text patterns. The size of the bubble in the plot is indicative of the frequency of the word, the larger the bubble, the more frequently the word occurred. The network of words demonstrated the distances of words in text (i.e., the degree of co-occurrence) measured using Jaccard's coefficient and indicated by solid lines drawn between words and dashed lines drawn between words in different clusters. The thicker the line, the more frequently the words appeared in the text. The location of the words and word clusters within the overall network map is not, however, indicative of any connection between the words or word clusters but only to efficiently display the map within the space available.

The multidimensional scaling (MDS) and co-occurrence network analysis plots were analyzed in conjunction with the traditionally emergent themes and provided additional empirical evidence for the in-depth understanding of the narrative qualitative data and to further support the results of the quantitative data analysis.

Ethical Considerations and Human Subjects Protections

This study design and the survey through which the data were collected were reviewed by representatives of the Long Island University Institutional Review Board (IRB) and granted exempt status on November 6, 2018. The study

- was introduced to the subjects using an online letter of informed consent that fully disclosed the purpose of the study, assured their anonymity, provided contacts to obtain

further information about the study or their rights as subjects, and asked subjects to agree or decline to participate;

- involved a non-sensitive, non-intrusive topic;
- was voluntary with several opportunities to withdraw from participation without penalty by
    - not opening the survey link;
    - declining permission to use the subject data in an explicit question by declining to participate after reading the informed consent letter at the beginning of the survey;
    - closing the browser at any point during the survey; or
    - deciding to not press the <Finish Survey> button at the end of the survey.
- was conducted on an anonymous basis using a commercial online survey host, QuestionPro;
- did not collect any names or other personally-identifying information about the subjects;
- collected data only from a highly-educated, non-vulnerable population (i.e., certified teachers) as defined by federal regulations; and
- did not present any known or anticipated physical, medical, psychological, economic, or legal risk or liabilities to the subjects.

As disclosed in the informed consent letter at the beginning of the online, voluntary, anonymous survey, participants were advised that the study did not provide any direct benefits or compensation to them but that it would provide benefits broadly to the study and practice of education and educational leadership.

Methodological Limitations

Some of the limitations of using an FMM approach for a social judgment analysis study are discussed above. The use of FMM to identify latent classes of judgment models presented a limitation in that individual-level judgment models for individual respondents could not be revealed; rather FMM revealed subgroup judgment models for whole classes of individuals.

Another limitation of this study was the inability to assess the revealed preferences vs. stated preferences of the participants. Stated preferences assume that respondents are self-aware of their judgment preferences and functions, but that cannot be assured (Chowske, 2013; Cooksey, 1996a, 1996b; Cooksey & Freebody, 1986; Hammond, 1978, 1981; Hammond, Stewart, Brehmer, & Steinmann, 1975; Harmon & Rohrbaugh, 1990; Permut, 1973; Rohrbaugh, 1981; Stewart, Roebber, & Bosart, 1997). As individual-level judgment models for individual respondents could not be revealed, the analysis of revealed versus stated preferences was not feasible.

A third area of limitation in this study relates to the non-probability nature of the participant sample, which involved anonymous, self-selected volunteers. This study used a purposive, self-selected, convenience, snowball sampling approach to recruit typical teacher participants. As such, there was an inherent limitation to the statistical generalizability of the results beyond the sample. Generalizability was further limited to teachers residing within New York State. Differing certification and tenure policies of other states as well as socioeconomic and teacher compensation differences between states might have presented as additional latent classes.

There are also inherent systematic effects of SJA that might have distorted or informed judgments. Examples of such effects might include, but are not limited to: “Profile sequencing, distractions, fatigue, and memory intrusions/distortions which may systematically co-vary with

judgments across cue profiles" (Cooksey, 1996b, p. 161). Judges may also rely upon their own interpretation of cues based upon their past experiences and from influences of others (Mumpower & Stewart, 1996; Stewart et al., 1997).

A final potential limitation in this study is that the results might be biased by the correlated response problem created by collecting repeated measures from a sample of individual respondents. The study design attempted to make corrective adjustments for this potential issue, but the effectiveness of that approach cannot be known with certainty.

Chapter Synthesis

This chapter discussed the innovative experimental and analytic design selected for this study, which employed optimal experimental design techniques with individual regression analyses, mixed-effects, multilevel modeling, and finite mixture modeling in conducting a social judgment analysis to model the judgment preferences of public school teachers concerning the leadership qualities they prefer in high school principals. This approach builds upon decades of research in judgment analysis, but it adds the ability to identify and analyze a series of discrete judgment models that reveal the unobserved heterogeneity (i.e., latent classes) in the views of the subject teachers. Chapter IV presents the findings of the social judgment analyses, discusses the results of the experiment, and provides responses to the research questions that guided this research.

CHAPTER 4

RESULTS OF THE EXPERIMENT

This chapter presents the findings from the experiment conducted for this study, my interpretations of the results, and empirically grounded responses to the research questions stated in the previous chapter. This study was conducted as a quasi-experiment in the form of a social judgment analysis (SJA) to identify the judgment preferences of teachers about the effectiveness of school principals' as reflected in their leadership qualities. The unobserved heterogeneity in these judgment preferences was identified through latent class analysis (LCA) with finite mixture modeling (FMM) to reveal a set of latent classes of distinct sets of preferences held by clusters of teachers with shared preference sets.

In Part One of this Chapter, I report the findings of the social judgment analyses (SJA) of the 212 individual cases and then present the results of the mixed-effects, multilevel model analyzing the combined cases in the overall sample (N_{cases} = 212, $N_{\text{observations}}$ = 7,632) based on a single rational actor assumption. The results of the mixed-effects, multilevel model are presented along with visualizations of the observed and predicted judgment policies and strategies of teacher participants. This approach presumes that, at some level of aggregation, the judgments of all the participating teachers may be assumed to reflect a single set of shared judgment preferences. In this part, I present the overall judgment model and discuss the judgment policies it reflects.

Although the single rational actor perspective is useful for understanding teachers' preferences at the overall level, it may obscure important differences in preferences held by clusters of teachers within the larger group. Part Two of this chapter addresses that concern by presuming that the preferences teachers hold for the qualities of school leaders can be more

deeply understood by acknowledging the likelihood of multiple preference sets, reflecting a multiple rational actors assumption. In this part, I present the results of a latent class analysis (LCA) conducted using a finite mixture modeling (FMM) framework. This framework enabled the analysis to reveal the unobserved heterogeneity within the overall sample and identified five specific latent classes reflecting distinct sets of judgment preferences. I then present the judgment model for each latent class and discuss the judgment policies that each latent class reflects. The discussion of the preference sets for the specific latent classes presented in Part Two provides a deeper understanding of teachers' preferences in terms of the qualities they expect of effective school leaders. This stage of the analysis focuses, however, on the views of hypothetical composites of teachers rather than on the views of any specific individual participants in the study. This is much like describing a "typical" Democrat or Republican, even though the descriptions might not perfectly describe any particular, individual member of those political parties.

Parts One and Two of this chapter provide quantitative findings from the regression analyses of the individual cases, the multilevel model of the overall single rational actor preference set, and the latent class models of the multiple (but hypothetical) rational actors preference sets. These quantitative perspectives are particularly useful due to the elegance with which they simplify and focus the information. However, in simplifying and summarizing the information quantitatively, these approaches may fail to reveal some of the richness and texture of the responses that can only be observed in the narrative responses the participants provided. Therefore, in Part Three of the chapter, I present an analysis of the qualitative information obtained in the study and discuss the insights which this information provides for understanding, interpreting, and expanding the quantitative results.

Lastly, Part Four of this chapter employs the empirical evidence provided in both the quantitative and qualitative analyses to provide formal responses to the research questions that guided this study. This final section discusses the overall model provided by the multilevel analysis along with the separate models provided by the latent class analysis (LCA) conducted with finite mixture modeling (FMM), and describing the effects of the covariates in predicting membership within each latent class.

PART ONE

OVERALL PREFERENCES FOR SCHOOL LEADER QUALITIES FROM THE SINGLE RATIONAL ACTOR PERSPECTIVE

To prepare a foundation for the analyses presented in Parts One and Two of this chapter, I conducted a separate multiple linear regression analysis (without constant terms) for each of the $N = 212$ cases (each comprising 36 observations) in the study sample using the traditional social judgment analysis (SJA) approach. These foundational stage models produced individual, case-by-case, regression results and judgment policy models and strategies, which are included as Appendix A. Because this study was focused on identifying the group-level preferences of teachers with shared views about the qualities of effective school leaders, I will not discuss the individual, case level regression results here. I encourage the reader, however, to review the individual participants' SJA results in Appendix A as preparation for understanding the discussions below of the single rational actor multilevel model in the remainder of Part One and the latent classes identified through finite mixture modeling in Part Two.

In the remainder of Part One, I describe the judgment preferences of the overall sample of participating teachers from the single rational actor perspective. This approach employed a mixed-effects, multilevel analysis to provide a model of the overall social judgment preferences of the participating teachers regarding the leadership qualities they prefer in school leaders.

SJA Results From the Mixed-Effects, Multilevel Model

The overall judgment preferences of the teachers regarding the qualities they value in school leaders are described in the results of the mixed-effects, multilevel analysis shown in Table 4.1. This model is highly statistically significant and manifests an excellent goodness of fit (Wald $\chi^2_{(25)} = 10{,}971.91$, $p < .001$, Pseudo $R^2 = .234$).

Table 4.1

Mixed-Effects Multilevel Model With Covariate Interactions

Leadership quality and covariate interactions	*b*	*SE*	z	*p*	[95% CI]	
contribution	0.23	0.04	5.48	<.001	1.15	0.31
loyal	0.31	0.05	6.96	<.001	0.22	0.40
affect	0.18	0.04	4.33	<.001	0.10	0.27
respect	0.81	0.04	19.67	<.001	0.73	0.90
network	0.30	0.05	6.47	<.001	0.21	0.39
teachXcontribution	0.01	0.01	0.05	.958	-0.01	0.01
hsXcontribution	0.01	0.03	0.15	.878	-0.06	0.07
docXcontribution	-0.01	0.06	-0.07	.946	-0.12	0.11
aspireXcontribution	-0.06	0.03	-1.82	.069	-0.13	0.01
teachXloyal	-0.01	0.01	-0.62	.538	-0.01	0.01
hsXloyal	-0.03	0.04	-0.85	.398	-0.10	0.04
docXloyal	-0.12	0.06	-2.01	.044	-0.25	-0.01
aspireXloyal	0.01	0.04	0.11	.909	-0.07	0.08
teachXaffect	-0.01	0.01	-0.49	.621	-0.01	0.01
hsXaffect	0.02	0.03	0.51	.608	-0.05	0.08
docXaffect	-0.09	0.06	-1.48	.138	-0.20	0.03
aspireXaffect	-0.05	0.04	-1.45	.148	-0.12	0.02
teachXrespect	0.01	0.01	0.94	.348	-0.01	0.01
hsXrespect	0.08	0.03	2.35	.019	0.01	0.14
docXrespect	0.05	0.06	0.88	.379	-0.06	0.16
aspireXrespect	-0.05	0.03	-1.45	.148	-0.12	0.02
teachXnetwork	0.01	0.01	0.68	.495	-0.01	0.01
hsXnetwork	-0.01	0.04	-0.22	.825	-0.08	0.06
docXnetwork	0.17	0.06	2.61	.009	0.04	0.29
aspireXnetwork	0.07	0.04	1.84	.066	-0.01	0.14

Random-effects	Parameters	Estimate	*SE*
	Var(Constant)	0.73	4
	Var(Residual)	4.30	1

Note. N_{cases} = 212 and $N_{observations}$ = 7,632. Log Likelihood = -16,634.62. Wald $\chi^2_{(25)}$ =10,971.91 ($p < .001$). LR test vs. linear model: $\chi^2_{(1)} = 613.71$ ($p < .001$). Key to leadership qualities: contribution = LMX: deserving of my contribution; loyal = LMX: loyal to me; affect = LMX: affect, likable; respect = LMX: professional respect/knowledgeable and competent; network = works beyond formal structure and roles. Key to covariates: teach = teaching experience; hs = teaches Grades 9-12; doc = holds a Doctoral degree; aspire = aspires to secure an administrative leadership position within the next 5 years.

In terms of direct effects, the single most important judgment quality in the overall single rational actor model is the leader-member exchange (LMX) quality of professional respect. This quality represents the teacher's view of the experience, competence, and professional credentials held by the building leader. Focusing exclusively on the direct effect of professional respect (b = .81, $p < .001$), the influence of this quality is 2.7 times as important as the influence of either loyalty (b = .31, $p < .001$) or networking (b = .30, $p < .001$), 3.5 times as important as the influence of contribution (b = .23, $p < .001$), and 4.5 times as important as the influence of affect (b = .18, $p < .001$). As reflected in the interaction effects, the only participant characteristic that moderates the impact of professional respect is that the teacher is assigned to Grades 9-12. High school teachers place an even greater emphasis (b = .08, p = .019) on the importance of professional respect for the school leader.

The LMX quality of loyalty (b = .31, $p < .001$) and the added quality of networking (b = .30, $p < .001$) are essentially tied as the second most important factors in the judgment preferences reflected in this overall single rational actor model. As the interaction effects show, the only participant characteristic that moderates the impact of networking is that the teacher holds a doctoral degree. Teachers with a doctorate place a substantial additional emphasis (b = .17, p = .009) on the value of the school leader's networking quality. Having a doctorate moderates the effect that teachers assign to the loyalty they experience from a school leader (b =

-.21, $p = .044$). Those with a doctorate give substantially lower importance to a school leader's loyalty than do their colleagues who do not hold doctoral degrees.

None of the participants' characteristics were found to moderate their preferences for the LMX qualities of contribution or affect at a statistically significant level.

Visualized Social Judgment Policies and Social Judgment Strategy From the Multilevel Model

The results of the social judgment analysis conducted with the mixed-effects, multilevel model are visualized in the polynomial lines graphs shown as Figures 4.1 and 4.2. The first of these figures depicts the relationships that were observed in the data, whereas the second shows the relationships that are predicted by the mixed-effects, multilevel model. Because the model is highly statistically significant, these two plots are fundamentally similar, but both are presented out of a desire to provide a complete view of the policies and strategy. To simplify the interpretation, I focus my discussion on the model which shows the predicted policy lines, creating the judgment strategy (i.e., Figure 4.2), and I describe the policies in the order of importance reflected in their regression coefficients as discussed above.

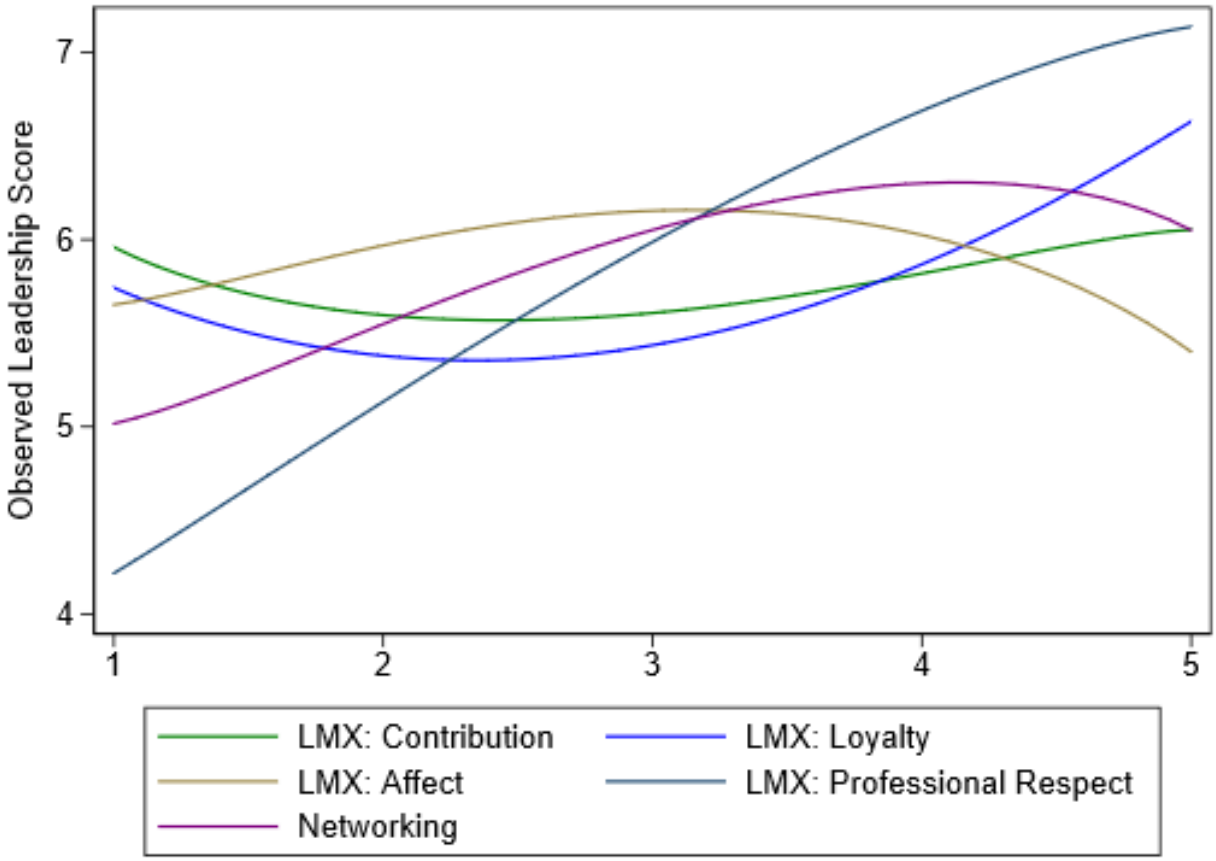

Figure 4.1. The single rational actor multilevel model of overall observed judgment policies and strategy. This reflects the single rational actor overall observed judgment policies, by quality, resulting from mixed-effects, multilevel modeling. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

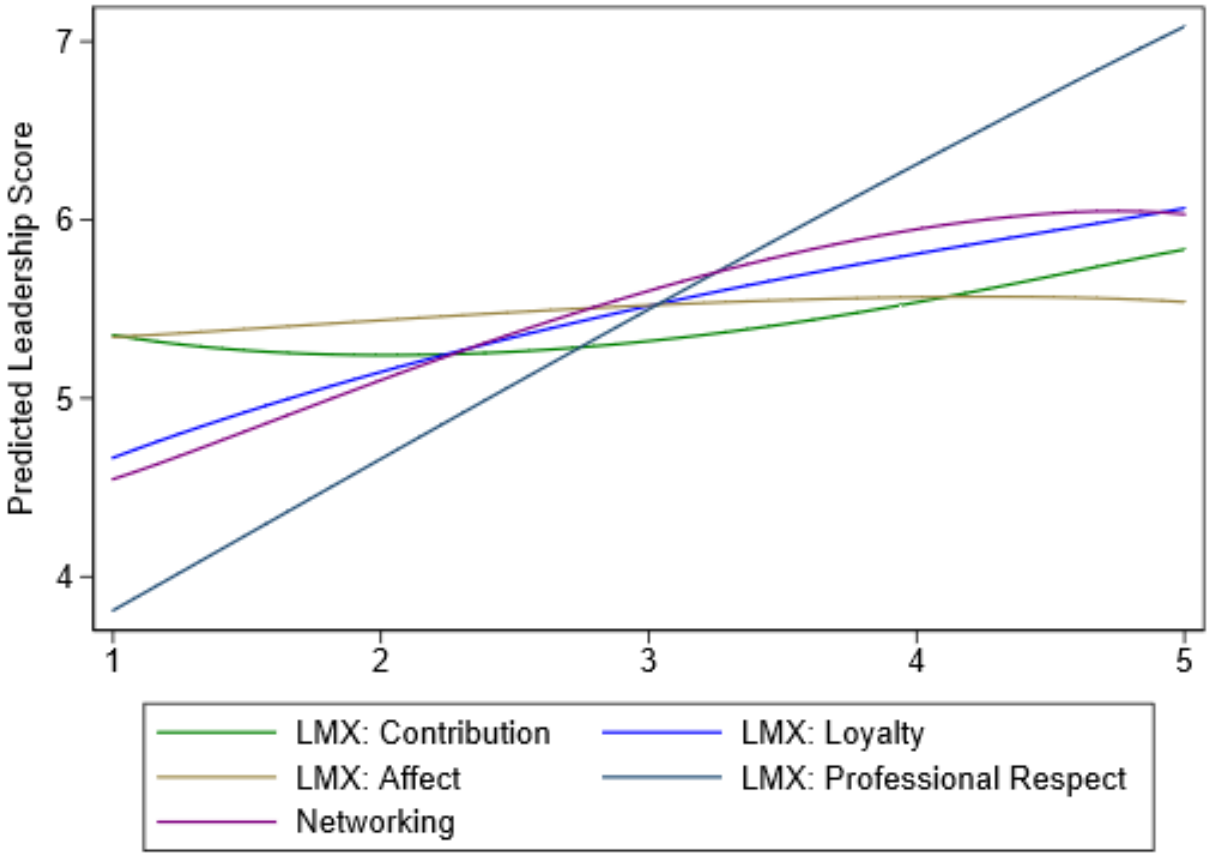

Figure 4.2. The single rational actor multilevel modeling of overall predicted judgment policies and strategy. The single rational actor overall predicted judgment policies, by quality, resulting from mixed-effects, multilevel modeling. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

Each polynomial line indicates the leadership effectiveness score the teachers assigned to the hypothetical leaders for each level of each leadership quality. The levels of the leadership qualities included in the hypothetical leader scenarios ranged from 1 (*far below average*) to 5 (*far above average*). The individual lines reflect specific judgment policies, whereas the lines taken together reflect the participants' judgment strategy as a whole based on a single rational actor assumption.

As discussed above, the single-most important leadership quality that teachers value in school leaders was found to be the LMX quality of professional respect. The light blue polynomial line depicts a very strong positive linear relationship between professional respect and the leadership effectiveness scores assigned to the hypothetical leader scenarios by the participating teachers. This policy represents a judgment of "the more, the better" with regard to this leadership quality.

The policies related to networking and the LMX quality loyalty are shown in purple and dark blue respectively. These qualities, which were found to have relatively equal importance in the preferences of the teachers, both display a positive linear relationship with the leadership effectiveness scores assigned by the teachers. This relationship can also be described as a policy of "the more, the better," but the slopes of the polynomial lines are far less steep than that of professional respect.

The green polynomial line represents the LMX quality of contribution, which is the fourth most important factor in the judgment preferences of the teachers. This factor has relatively little effect until the hypothetical leader demonstrates more than an average amount of this quality. When the leader reaches that point, there is a gentle, positive slope reflecting a somewhat higher leadership effectiveness score. This policy may be described as, "no change up to a point, and then the more, the better."

The relatively flat polynomial line shown tan represents the LMX quality of affect. This line indicates that there is relatively little change in leadership effectiveness score across the levels of affect. It is not surprising, then, that affect reflects the lowest priority of the preferences in the overall single rational actor model.

PART TWO

LATENT CLASSES OF PREFERENCES FOR QUALITIES OF EFFECTIVE SCHOOL LEADER QUALITIES

In this part, I challenge the adequacy of the assumption that the preferences of teachers for the desired leadership qualities of effective school leaders can be treated monolithically as implied in the overall single rational actor model discussed in Part One. Therefore, this second part of the chapter presents a social judgment analysis (SJA) based on the revised assumption that there are multiple preference sets (i.e., multiple rational actors) within the study sample. I had assumed in the research plan that the overall sample might include several clusters (i.e., latent classes) reflecting unobserved heterogeneity, and that assumption was reinforced by the relatively low Pseudo-R^2 (Pseudo-R^2 = .234) found in the single rational actor multilevel model in the first stage of this analysis.

To investigate this alternative assumption, I conducted latent class analysis (LCA) within a finite mixture modeling (FMM) framework specifying a quadratic regression analysis on the 7,632 individual observations to reveal and identify latent classes of distinct, theoretical SJA models hidden within the larger data set.

In estimating the quadratic regression equations in the cores of the FMM models, I executed six separate models, specifying 1, 2, 3, 4, 5, and 6 classes, respectively, and calculated the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) from each. As explained in the previous chapter, I determined that the best-fit FMM model (based on the minimized AIC and BIC criteria described in the previous chapter) was the 5-class FMM, as shown in Table 4.2. I note that the AIC is lower for the 6-class model and the BIC is lower for the 5-class model, but, as I explained in the previous chapter, I gave priority to the BIC over the AIC because BIC reflects a penalty for model complexity. The final arbiter in this dispute was

the theoretical meaning of the classes, and I judged that the 5-class model suggested by the BIC provides the most theoretically meaningful set of latent classes.

Table 4.2

Akaike's Information Criteria and the Bayesian Information Criterion

Model	LL(model)	*df*	AIC	BIC
1-class FMM	-16,734.43	11	33,490.86	33,567.19
2-class FMM	-16,351.74	26	32,755.48	32,935.91
3-class FMM	-16,199.71	41	32,481.42	32,765.95
4-class FMM	-16,112.36	56	32,336.73	32,725.36
5-class FMM	-15,991.19	71	32,124.38	32,617.11
6-class FMM	-15,969.07	86	32,110.13	32,706.96

Note. N = 7,632 observations

After the 5-class model was chosen, the estimates of the unconditional marginal probabilities of class membership for each of the 7,632 observations were calculated. Table 4.3 shows the unconditional latent class membership probability of an observation, chosen at random, being assigned to a specific latent class, along with the 95% confidence interval for each class membership probability.

Table 4.3

Unconditional Probabilities of Latent Class Membership

Class	Membership probability	*SE*	[95% CI]	
1	0.38	0.05	0.29	0.47
2	0.21	0.02	0.17	0.26
3	0.16	0.02	0.13	0.20
4	0.09	0.01	0.07	0.13
5	0.16	0.04	0.09	0.26

Note. *N* = 7,632 observations

Latent Class 1 manifests the highest unconditional class membership probability. The probability of an observation's being in Latent Class 1 is 1.81 times the probability of being in the next largest class (i.e., Latent Class 2) and about 2.40 times that of both Latent Class 3 and

Latent Class 5. The probability of an observation's being Latent Class 4 is about one-quarter (.24) that of being in the first latent class.

Table 4.4 shows the marginal mean leadership effectiveness scores associated with each of the five latent classes. The highest mean scores were obtained from Latent Class 3 (M = 6.90) and Latent Class 5 (M = 6.58). Latent Class 1 (M = 5.53) and Latent Class 2 (M = 5.55) produced the second highest means of leadership effectiveness scores, and Latent Class 4 (M = 5.10) observations were associated with the lowest leadership effectiveness scores. Nevertheless, given the maximum potential leadership effectiveness score of 11, the differences in mean scores across the latent classes are all relatively close to average and do not appear remarkable—except to note that highest mean score (6.90 for Latent Class 3) is only 63% of the maximum potential leadership effectiveness score.

Table 4.4

Marginal Means of Leadership Effectiveness Scores by Latent Class

Latent class	*M*	*SE*	z	*p*	[95% CI]	
1	5.53	0.11	49.50	< .001	5.31	5.75
2	5.55	0.16	34.82	< .001	5.24	5.87
3	6.90	0.16	44.27	< .001	6.59	7.20
4	5.10	0.12	43.83	< .001	4.87	5.33
5	6.58	0.09	70.50	< .001	6.40	6.77

Note. N = 7,632 observations

The results of the multinomial logistic regression predicting latent class membership for the latent classes in the 5-class model are displayed in Table 4.5. This analysis used both the constant terms and the three covariates (i.e., teaching experience, high school level-teaching, and administrative aspiration) in classifying the observations.

Table 4.5

Multinomial Logistic Regression Results of the Five Latent Class Finite Mixture Model

	Predictors	*b*	*SE*	*z*	*p*	[95% CI]	
Latent Class 1	Omitted (Reference)						
Latent Class 2							
	teaching experience	-0.01	0.01	-0.85	.394	-0.03	0.01
	high school	0.10	0.19	0.52	.606	-0.28	0.48
	admin aspire	-0.19	0.19	-0.99	.323	-0.57	0.19
	Constant	-0.33	0.30	-1.08	.278	-0.92	0.26
Latent Class 3							
	teaching experience	-0.01	0.01	-0.99	.320	-0.04	0.01
	high school	0.20	0.23	0.85	.393	-0.25	0.64
	admin aspire	-0.41	0.24	-1.70	.089	-0.89	0.06
	Constant	-0.39	0.35	-1.13	.260	-1.08	0.29
Latent Class 4							
	teaching experience	-0.01	0.01	-1.03	.301	-0.02	0.01
	high school	-0.43	0.21	-2.05	.040	-0.85	-0.02
	admin aspire	0.24	0.21	1.13	.257	-0.18	0.66
	Constant	-1.31	0.29	-4.49	<.001	-1.88	-0.74
Latent Class 5							
	teaching experience	-0.01	0.01	-0.90	.370	-0.03	0.01
	high school	0.25	0.18	1.36	.174	-0.11	0.61
	admin aspire	-0.48	0.20	-2.39	.017	-0.88	-0.09
	Constant	-0.43	0.48	-0.91	.365	-1.38	0.51

Note. N observations = 7,632. Log pseudolikelihood = -15,991.20. *SE* adjusted for 212 clusters. Key: teach = years teaching; high school = teaches Grades 9-12; admin aspire = aspires to secure an administrative leadership position within the next 5 years.

The covariates considered in this study (i.e., years of teaching experience, teaching high school Grades 9-12, or aspiring to an administrative position within the next 5 years) were not found to substantially affect the preference sets of the teachers in the study sample. There are only two statistically significant effects of the covariates and they affect the membership in only

two latent classes. The first of these effects is the covariate for teaching at the high school-level (ie., Grades 9-12), which indicates that the odds of being in Latent Class 4 are 35% lower than for Latent Class 1 for high school teachers (b = -.43, p = .04). The second statistically significant covariate effect is for administrative aspiration, which indicates that the odds of being in Latent Class 5 are 38% lower than for Latent Class 1 for those who aspire to obtain a leadership positions in the next five years (b = -.48, p = .017). . It is not surprising that the covariates do not play a greater role in assigning membership in the several latent classes because the fundamental assumption of latent class analysis (and, therefore, also of FMM) is that there is unobserved heterogeneity that can only be seen in the results and which cannot be anticipated or predicted by any known covariate (i.e., variation that can be observed in advance).

With that overview of the 5-Class FMM, the model and judgment preferences of each of the latent classes is described and discussed in turn below. These discussions are based first on the results of the quadratic regression analyses performed within the FMM framework. They are then further described by OLS regression analyses performed on those observations assigned by FMM to each of the five latent classes.

Latent Class 1

The first latent class of teachers' judgment preferences for the leadership qualities of effective school leaders is displayed in the quadratic regression results from the 5-class FMM shown in Table 4.6. The judgment policies reflected in the strategy represented by Latent Class 1 are visualized in Figures 4.3 and 4.4. The first of these figures presents the judgment policies evident in the observed data for the first latent class, whereas the second presents the judgment policies as predicted (i.e., modeled) by the FMM quadratic regression results for Latent Class 1. As expected, the observed and predicted policies appear to be highly similar—almost

isomorphic. These figures provide the basis for my initial interpretation of the preferences of the first latent class. I provide a further analysis in the third stage based on OLS regression analysis, but first I present the more complex quadratic regression results.

Table 4.6

Finite Mixture Model With Quadratic Regression for Latent Class 1

Leadership quality	*b*	*SE*	*z*	*p*	[95% CI]	
LMX:contribution	0.16	0.21	0.77	.443	-0.25	0.58
LMX:contribution^2	0.04	0.03	1.12	.263	-0.03	0.10
LMX:loyal	-0.63	0.17	-3.78	< .001	-0.95	-0.30
LMX:loyal^2	0.14	0.03	4.83	< .001	0.08	0.20
LMX:affect	0.10	0.13	0.76	.449	-0.15	0.35
LMX:affect^2	0.03	0.02	1.53	.126	-0.01	0.08
LMX:respect	0.62	0.19	3.27	<.001	0.25	1.00
LMX:respect^2	0.11	0.03	3.42	<.001	0.05	0.18
network	0.33	0.31	1.05	.293	-0.29	0.95
network^2	0.02	0.06	0.32	.748	-0.10	0.14
Error variance	1.37	0.19			1.04	1.80

Note. SE estimated as robust *SE* adjusted for case-specific clusters. For the key to variable names, see Table 4.1.

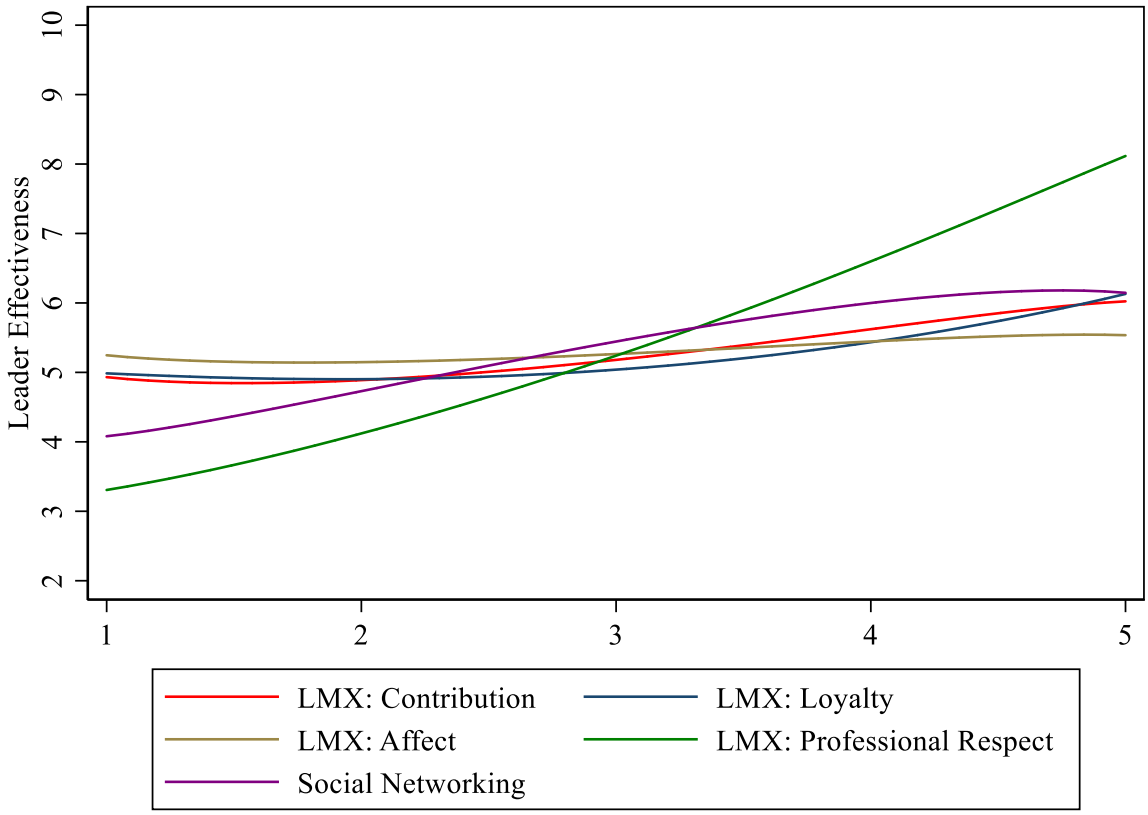

Figure 4.3. Observed judgment policies and overall judgment strategy of Latent Class 1 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

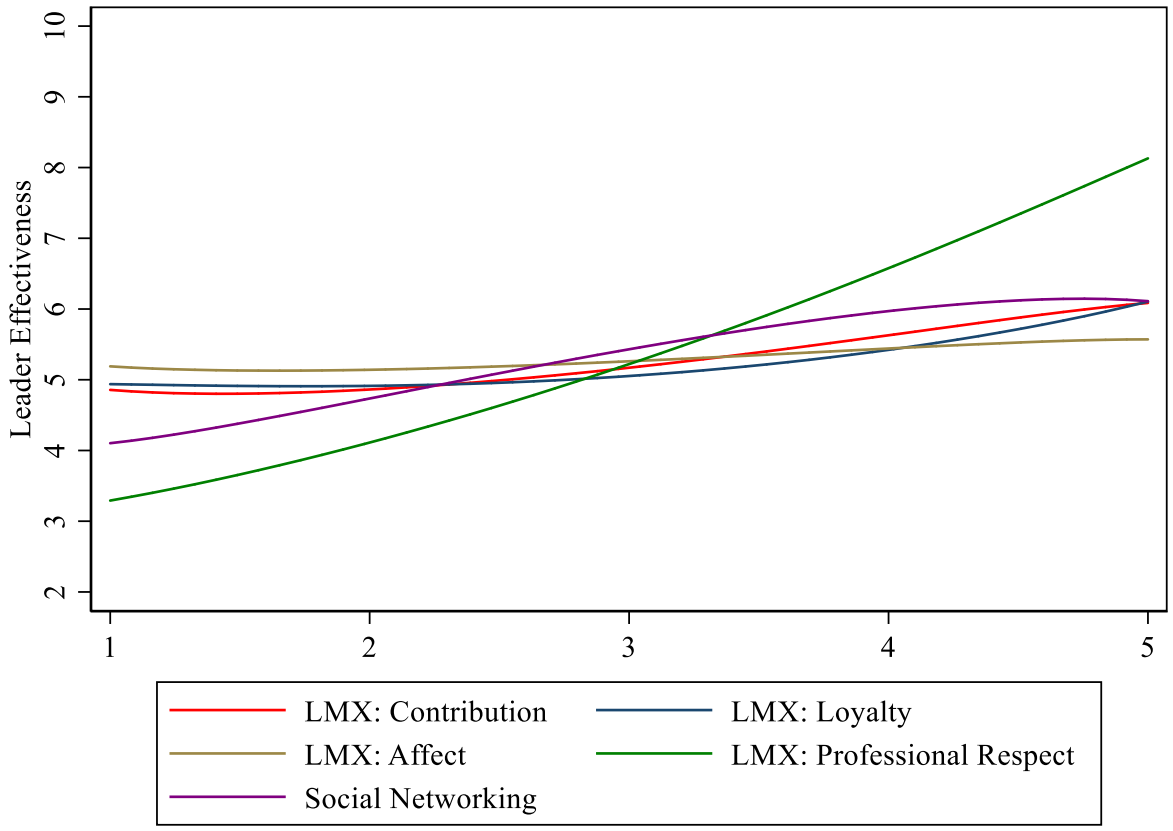

Figure 4.4. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 1 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

The quadratic regression results in Table 4.6 were plotted in Figure 4.4 to provide a visualization of the judgment policies and overall strategy model of Latent Class 1, depicted in a set of curvilinear functions. These curved lines are representative of the true shape and variation contained within Latent Class 1's judgment policies and judgment strategy. This indicates the impact of each leadership quality on the assigned leadership effectiveness scores.

All of the judgment policies in Latent Class 1 were found to manifest positive slopes with varying degrees of rate. The curvilinear function for LMX:affect (tan) appears to be almost linear and virtually horizontal. This suggests that changes in the levels of LMX:affect have only

a negligible effect on the assigned leadership effectiveness scores. LMX:contribution (red) and LMX:loyalty (blue) present slightly positive slopes, but do not differ substantially in policy as the leadership quality level changes from 1 (*far below average*) to 5 (*far above average*) Networking (purple) shows a slight but steady policy of "the more the better," as the level of this leadership quality increases to the 4 (*above average*), then remains stable through 5 (*far above average*).

The LMX:professional respect leadership quality distinctly stands out in the visualization model with the highest positive rate of change of judgment policy and overall impact on Latent Class 1's judgment strategy. With a 5-point, positive differential between the lowest and highest levels of LMX:professional respect, Latent Class 1 clearly illustrates a judgment policy of "the more the better" for this leadership quality.

The results of the quadratic regressions and visualizations above provide the richest, most detailed perspective of the judgment policies and strategy reflected in Latent Class 1. Although this highly detailed perspective is instructive, it is also useful to view the judgment policies and strategy of the first latent class in a more simplified, linear form using ordinary least squares (OLS) regression in the tradition of social judgment analysis studies.

The (OLS) regression for the observations classified into the first latent class by FMM was found to be highly statistically significant ($F_{(5, 211)} = 15{,}661.16$, $p < .001$), and the results are shown in Table 4.7. All five leadership qualities were found to be highly statistically significant. The single-most important determinant of the leadership effectiveness scores in this class is LMX:professional respect ($b = 1.08$, $p < .001$), which reflects the skills and competencies of the hypothetical leader. Having professional respect for the leader is assigned a priority that is 4.91 times as important as LMX:contribution ($b = 0.22$, $p < .001$). The effect of LMX:professional

respect is 10.80 times as important as LMX:loyalty (b = 0.10, p < .001), 9.00 times as important as LMX:affect (b = 0.2, p < .001), and 3.18 times as important as networking (b = 0.34, p = .028).

Table 4.7

Ordinary Least Squares Linear Regression for Observations Assigned to Latent Class 1

Leadership quality	*b*	*SE*	*T*	*p*	[95% CI]	
LMX:contribution	0.22	0.01	25.30	< .001	0.20	0.24
LMX:loyal	0.10	0.01	10.28	< .001	0.08	0.11
LMX:affect	0.12	0.01	13.35	< .001	0.11	0.14
LMX:respect	1.08	0.01	86.90	< .001	1.06	1.11
Network	0.34	0.01	30.94	< .001	0.31	0.36

Note. $N_{\text{observations}}$ = 4,165, $F_{(5, 211)}$ = 15,661.16 (p < .001), R^2 = .96, Robust *SE* adjusted for clusters based on subject ID, *RMSE* = 1.09. For the key to variable names, see Table 4.1.

I interpret the overall judgment strategy of the teachers in this class as one that assigns some importance to all five leadership qualities, but one which treats professional respect as paramount. Professional respect followed by networking—the quality of working outside of the formal structure and recognizing informal social networks—are the two major qualities that Latent Class 1 teachers consider in judging the effectiveness of the school leader. Teachers associated with Latent Class 1 are highly consistent in their application of the judgment policies, employing the overall strategy from these policies about 96% of the time (R^2 = .96). Based upon marginal latent class membership probability, the probability of a teacher holding this set of Latent Class 1 preferences is 38% and represents the strategy of more than one-third of the observations in the study sample.

Figure 4.5 presents an overlay of the margins plots of the linear functions of the ordinary least squares (OLS) regression for observations classified as Latent Class 1 by finite mixture

modeling (FMM). This figure provides a visualization of the overall strategy, combining the separate policy functions for each leadership quality. In Figure 4.6, the strategy for Latent Class 1 is decomposed into individual panels for each judgment policy. Each of the panels in this figure shows the effect of the respective leadership quality on the leadership score in comparison to the mean score for Latent Class 1.

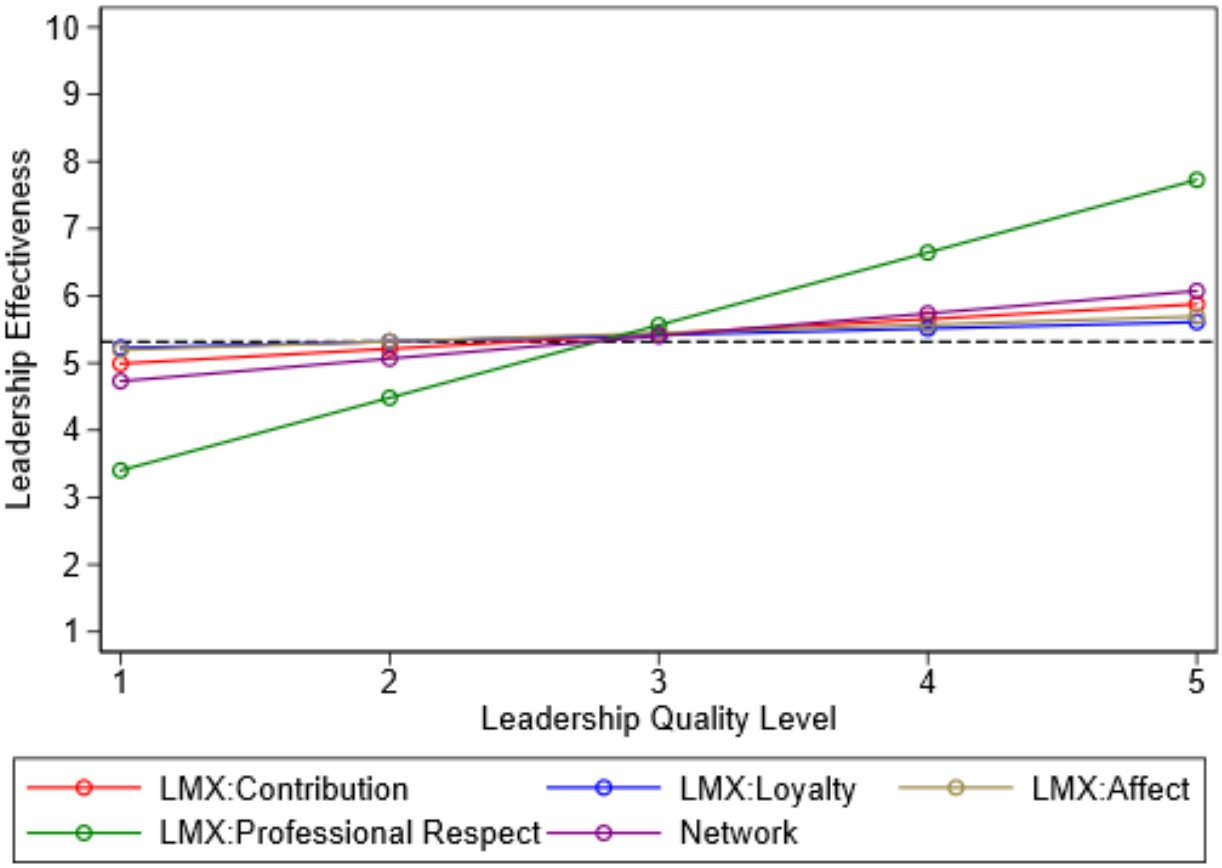

Figure 4.5. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 1 as revealed in the OLS regression for observations assigned to Latent Class 1 by finite mixture modeling (FMM). This model predicts the leadership effectiveness score for each leadership quality (holding constant the other leadership qualities), and simplifies the policy functions (i.e., lines) by removing the curvilinearities in the polynomial functions shown in Figures 4.3 and 4.4. The dashed line identifies the mean of the leadership effectiveness scores for observations classified into Latent Class 1. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

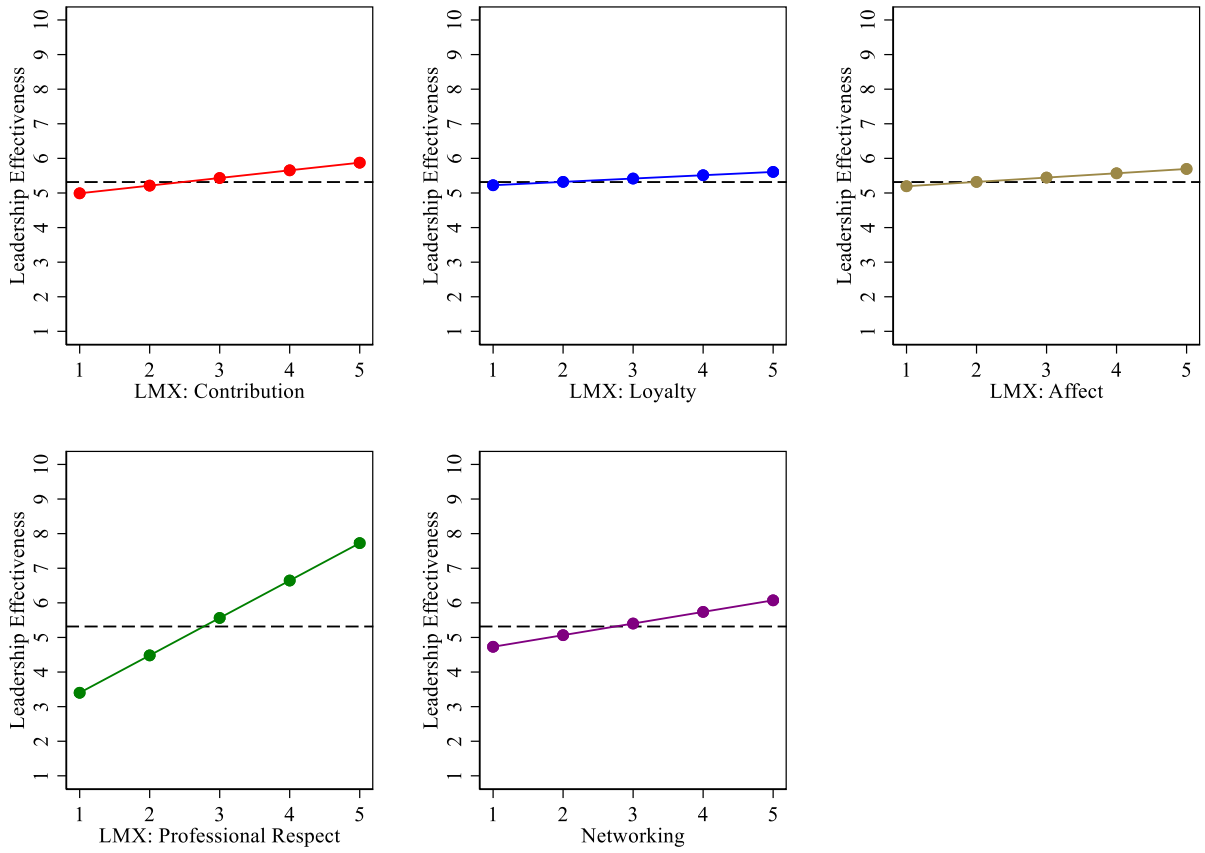

Figure 4.6. Combination margins plots of the effects of the five leadership qualities on the leadership effectiveness score for observations classified by FMM as Latent Class 1. The dashed line indicates the mean leadership score for the class and reflects the effect of each leadership quality on the leadership effectiveness scores. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

Each policy line indicates the leadership effectiveness score assigned to the hypothetical leaders for each level of the leadership quality which that policy reflects. The levels of the leadership qualities included in the hypothetical leader scenarios were labeled as 1 (*far below average*), 2 (*below average*), 3 (*just about average*), 4 (*above average*), and 5 (*far above average*). The individual lines reflect the specific judgment policies by leadership quality, whereas the lines taken together reflect the overall judgment strategy of the latent class. This

schema is the same for the strategy and policy graphs for the other latent classes, which are presented below.

As discussed above, the single-most important characteristic of school leaders as reflected in the preferences in Latent Class 1 was found to be the LMX quality of professional respect, which represents teachers' views of the skills, competence, and knowledge of the hypothetical leader. The green line depicts a very strong positive linear relationship between LMX:professional respect and the leadership effectiveness scores assigned to the hypothetical leader scenarios. This policy is indicative of a judgment policy of "the more, the better" with regard to the LMX:professional respect leadership quality.

The judgment policy in Latent Class 1 related to networking (i.e., working with social networks beyond the boundaries of the formal organization) was found be second in priority for assessing leadership effectiveness—but to a much lesser degree. While the slope of the networking line (purple) is far less steep than that of LMX:professional respect (green), nevertheless, networking displays a policy of "the more, the better" to some degree. The LMX leadership qualities of contribution, loyalty, and affect (see the red, blue, and tan lines) reflect very low slopes, indicating little to no change in the overall leadership effectiveness scores across the levels of LMX:contribution, LMX:loyalty, and LMX:affect.

As Figure 4.6 indicates, LMX:professional respect has a substantial effect on the leadership scores for the first latent class. When that quality is below average, it substantially reduces the leadership effectiveness score, and when it is above average it has a similar positive effect on the leadership effectiveness score. Networking has a somewhat positive effect on the leadership scores in Latent Class 1, whereas LMX:contribution, LMX:loyalty, and LMX:affect have essentially no effect on the leadership effectiveness scores in Latent Class 1.

The radar graph shown in Figure 4.7 provides a different visualization of the judgment policies and overall strategy of Latent Class 1. This graph shows the SJA OLS regression coefficients (see Table 4.7), which indicate the direction and relative magnitudes of the effects of the individual leadership qualities.

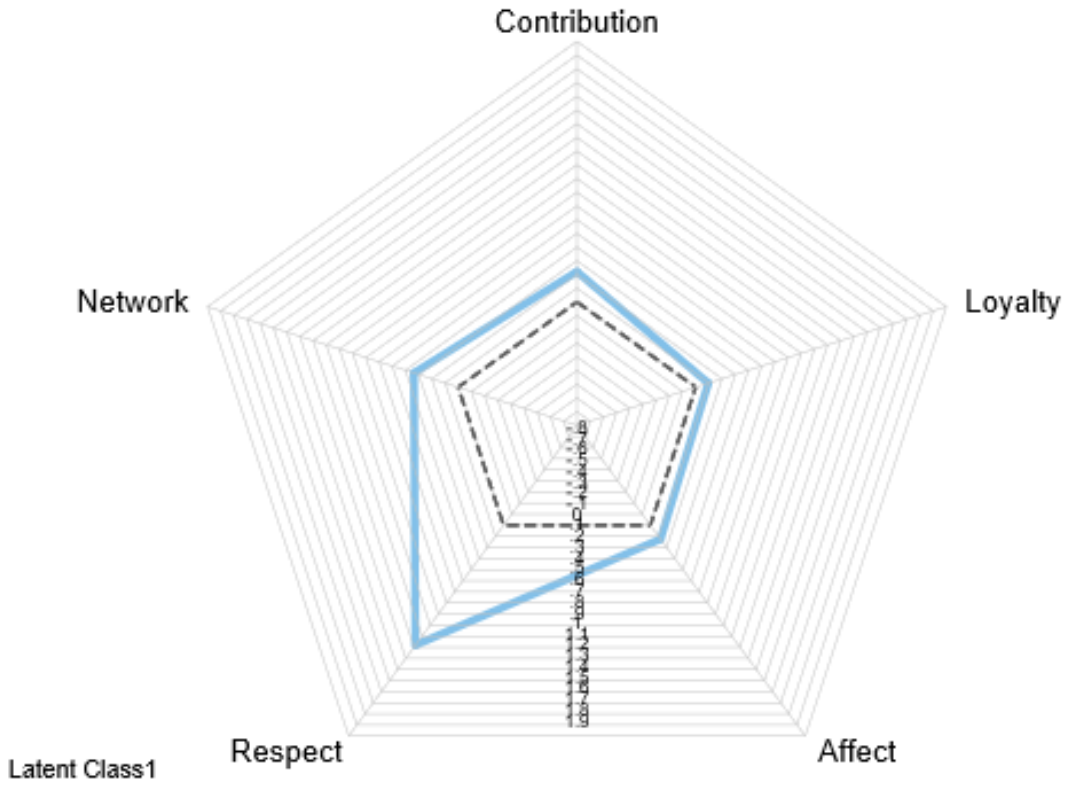

Figure 4.7. Radar graph of the judgment strategy of Latent Class 1. This shows the SJA OLS regression coefficients for Latent Class 1 indicating the effects of the five leadership qualities on leadership effectiveness scores. The dashed line provides a quality base-line level of *just about average* (0) for easily capturing the relative positive or negative effect of each individual leadership quality on the overall leadership effectiveness score. The OLS regression model is presented in Table 4.7, showing that all five effects are highly statistically significant.

As shown in the radar graph (Figure 4.7), all five leadership qualities have a positive effect on the overall leadership effectiveness scores assigned in Latent Class 1. Networking, LMX:contribution, LMX:affect, and LMX:loyalty each display positive levels of magnitude and effect. LMX:professional respect is clearly the predominant leadership quality affecting the

leadership effectiveness scores. The magnitude of the effect of the LMX:professional respect quality, as compared to the effects of the other four leadership qualities, indicates its importance in the overall judgment strategy of Latent Class 1.

Latent Class 2

The second latent class of judgment preferences for the leadership qualities of effective school leaders was analyzed in the same manner as Latent Class 1. Table 4.8 contains the quadratic regression results from the 5-class finite mixture model (FMM). The five observed judgment policies and overall judgment strategy of Latent Class 2 are visualized in Figure 4.8. Using the complex results of the FMM with quadratic regression, the predicted (i.e., modeled) judgment policies and overall judgment strategy are visualized in Figure 4.9. Figures 4.8 and 4.9 reveal clear policies for interpretation as well as the overall judgment strategy of Latent Class 2.

Table 4.8

Finite Mixture Model With Quadratic Regression for Latent Class 2

Leadership quality	*b*	*SE*	*z*	*p*	[95% CI]	
LMX:contribution	0.43	0.19	2.26	.024	0.06	0.81
LMX:contribution^2	0.00	0.03	-0.12	.906	-0.07	0.06
LMX:loyal	-1.62	0.25	-6.44	< .001	-2.11	-1.13
LMX:loyal^2	0.43	0.04	10.30	< .001	0.35	0.52
LMX:affect	1.00	0.31	3.21	<.001	0.39	1.61
LMX:affect^2	-0.09	0.06	-1.56	.119	-0.21	0.02
LMX:respect	2.39	0.18	13.10	< .001	2.03	2.75
LMX:respect^2	-0.41	0.04	-10.90	< .001	-0.49	-0.34
Network	-0.51	0.22	-2.36	.018	-0.94	-0.09
network^2	0.12	0.03	3.68	< .001	0.06	0.19
Error variance	1.62	0.14			1.37	1.92

Note. SE estimated as robust *SE* adjusted for case-specific clusters. For the key to variable names, see Table 4.1

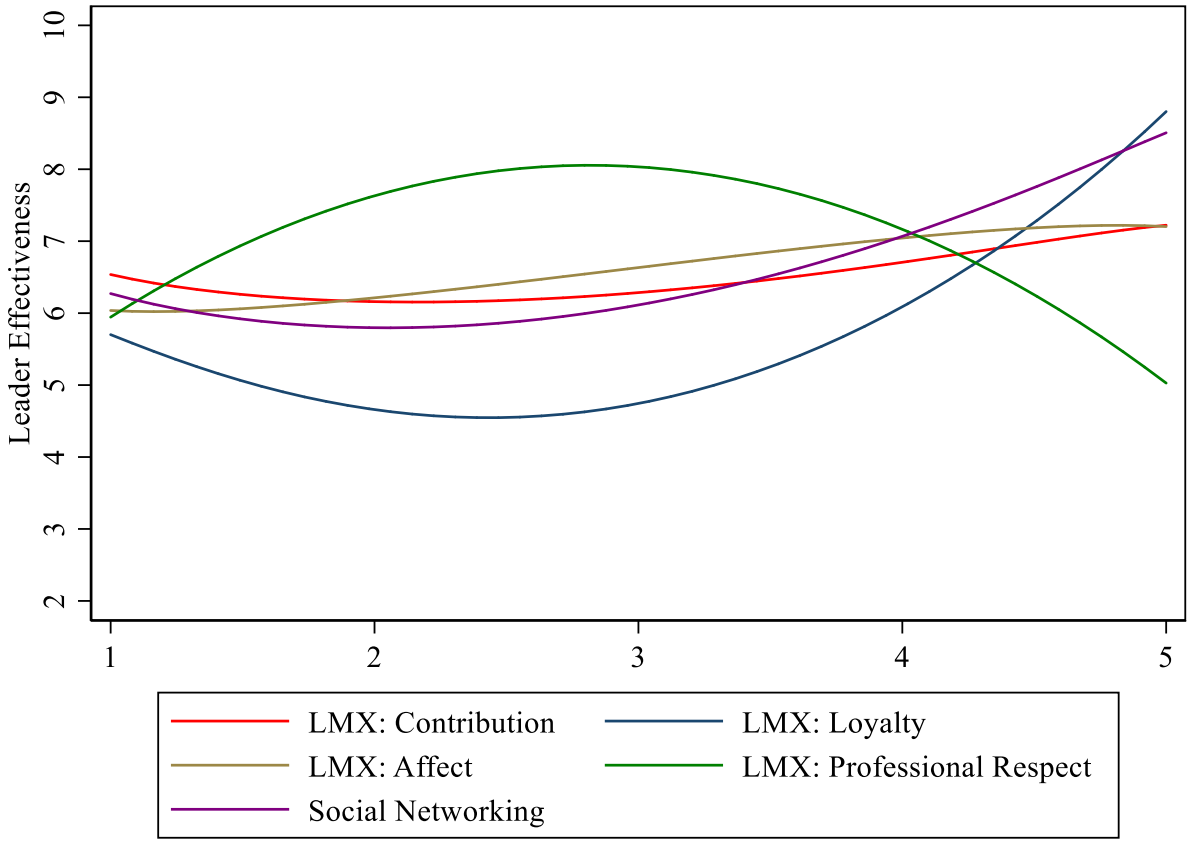

Figure 4.8. Observed judgment policies and overall judgment strategy of Latent Class 2 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

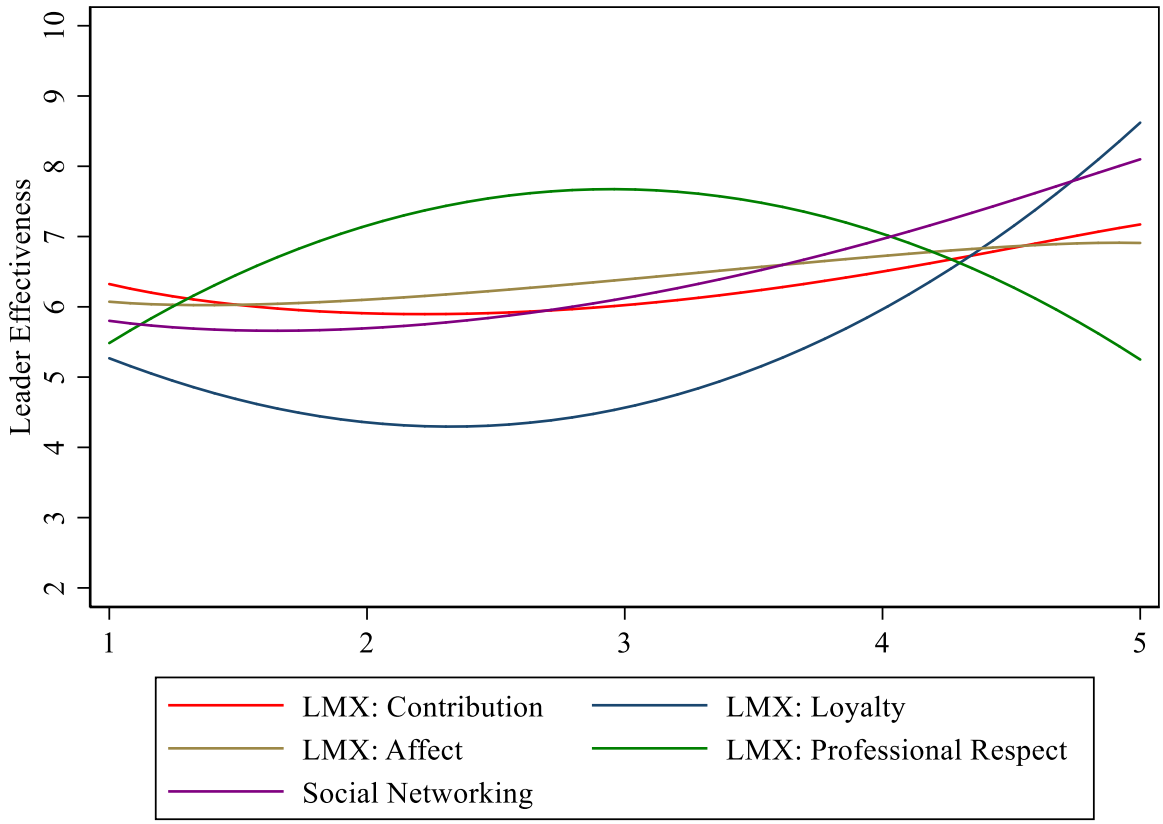

Figure 4.9. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 2 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average*.

The quadratic regression results from Table 4.8 as plotted in Figure 4.9 provide a visual model of Latent Class 2's judgment policies and overall judgment strategy as they affect the assignment of leadership effectiveness scores. These curvilinear functions are reflective of the true shape and variation contained within Latent Class 2's judgment policies. The variation reveals an accurate and detailed view of the impact of the leadership quality level on the leadership effectiveness score. The curvilinear functions for LMX:affect (tan), LMX:contribution (red) and network (purple) appear to have a similar trajectory and a limited impact on the range of the leadership effectiveness scores. The slightly positive curves of these three leadership qualities reveal a "the more, the slightly better" influence on the leadership

effectiveness score. The dramatic curve in the judgment policy function for LMX:loyalty (blue) is most accurately described as one of "the less the better, to a point." The point of change is reached at *just about average* (3), and then the function takes a positive turn into a "the more, the better" judgment policy. The curvilinear function for LMX:professional respect (green) also provides a deeper understanding of the judgment policy and that quality's negative role in the overall judgment strategy of Latent Class 2. The judgment policy line for LMX:professional respect reveals a clear and dramatic upward trend with a "the more the better, to a point" of *just about average* (3) magnitude, followed by a stronger, downward trend of a "the less, the better" judgment policy.

Having analyzed and reviewed the complex quadratic regressions and visualizations above, I then attempted to simplify the results into a more readily interpretable form by estimating an ordinary least squares (OLS) linear regression model on the observations assigned to Latent Class 2 by the FMM as presented in Table 4.9. The OLS regression model for Latent Class 2 is highly statistically significant ($F_{(5, 209)} = 4{,}421.73$, $p < .001$), and its results are shown in Table 4.9. The single most important factor in this class is LMX:loyalty ($b = 1.16$, $p < .001$). Having the loyalty of the leader is assigned a priority that is 2.70 times as important as LMX:affect ($b = 0.43$, $p < .001$), 2.90 times as important as LMX:contribution ($b = 0.40$, $p < .001$), and 3.87 times as important as network ($b = 0.30$, $p < .001$). The impact of LMX:respect ($b = -0.38$, $p < .001$) on the leadership effective scores was found to be negative, implying that the preferences in Latent Class 2 are not concerned about the school leader's skills and knowledge. To the contrary, they consider that quality (i.e., respect, reflecting knowledge and skills) to detract from the leader's effectiveness. This factor is, however, only about one-third (.33) as important in the judgment strategy of Latent Class 2 as LMX:loyalty.

Table 4.9

Ordinary Least Squares Linear Regression for Observations Assigned to Latent Class 2

Leadership Quality	*b*	*SE*	*t*	*p*	[95% CI]	
LMX:contribution	0.40	0.03	15.44	< .001	0.35	0.45
LMX:loyal	1.16	0.04	32.17	< .001	1.09	1.23
LMX:affect	0.43	0.02	17.72	< .001	0.38	0.48
LMX;respect	-0.38	0.03	-13.65	< .001	-0.43	-0.32
Network	0.30	0.03	9.48	< .001	0.24	0.37

Note. $N_{\text{observations}}$ = 1,193, $F_{(5, 209)}$ = 4,421.73, ($p < .001$), R^2 = .95, Robust *SE* adjusted for clusters based on subject ID, *RMSE* = 1.50. For the key to variable names, see Table 4.1.

I interpret the overall judgment strategy of the teachers in Latent Class 2 as one that very highly values the LMX quality of loyalty. In Latent Class 2, LMX:loyalty is the most important leadership quality and a strong indicator of assigned leadership effectiveness scores. The leadership quality judgment policies for likeable (LMX:affect), for inspiring in teachers a desire to work for the leader (LMX:contribution), and for working outside the formal social network boundaries (network), were all consistently judged as positive factors. The leadership quality of LMX:professional respect is noteworthy for its negative impact on Latent Class 2's overall leadership effectiveness scores. This may be an indication that the teachers in Latent Class 2 resent principals who believe they have superior knowledge and skills to those of the faculty and staff.

Teachers in Latent Class 2, similar to those in Latent Class 1, are highly consistent in their application of their judgment strategy. This strategy is employed about 95% of the time (R^2 = .95). Based upon the marginal latent class membership probability, the probability of a teacher holding the set of preferences found for Latent Class 2 is about 21%.

Figure 4.10 presents an overlay of the margins plots of the linear functions of the ordinary least squares (OLS) regression for observations classified as Latent Class 2 by finite mixture modeling (FMM). This figure provides a visualization of the overall strategy, combining the separate policy functions for each leadership quality. In Figure 4.11, the strategy for Latent Class 2 is decomposed into individual panels for each judgment policy. Each of the panels in this figure shows the effect of the respective leadership quality on the leadership score in comparison to the mean score for Latent Class 2.

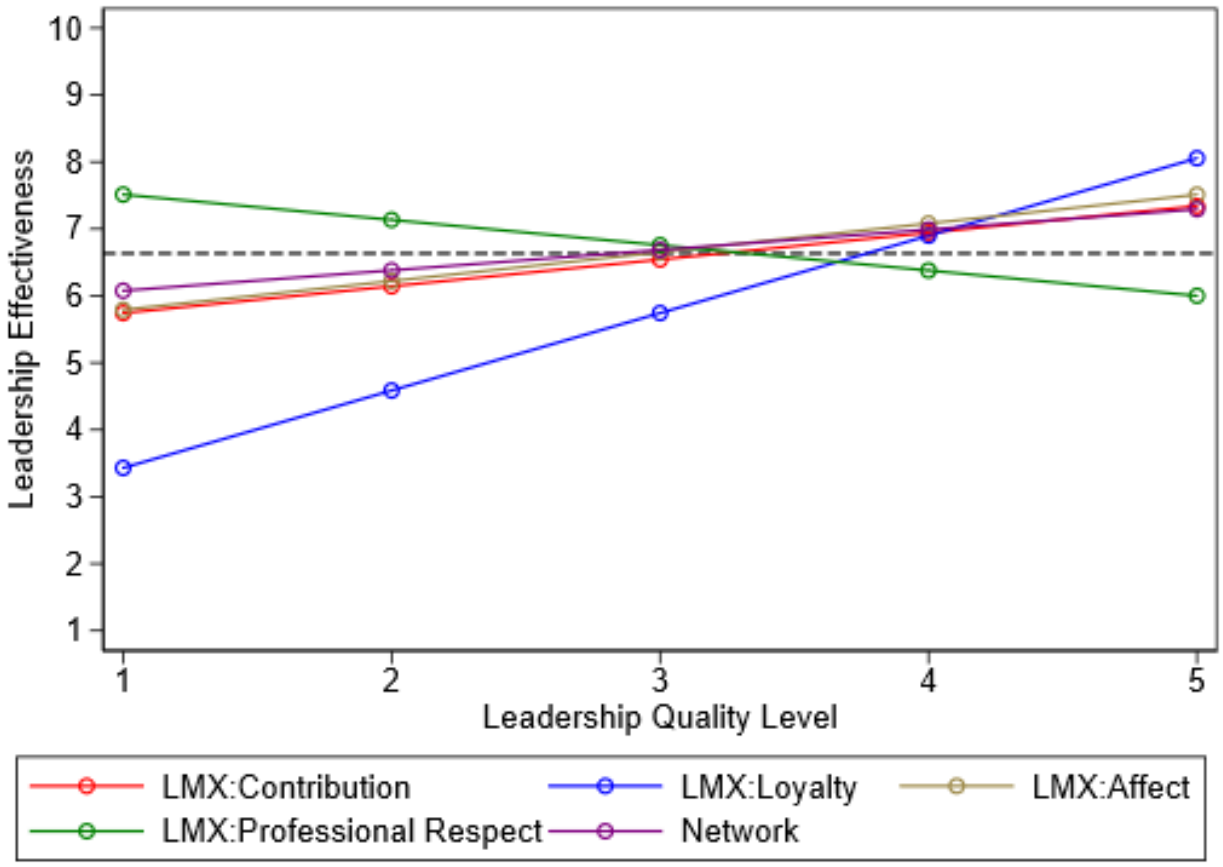

Figure 4.10. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 2 as revealed in the OLS regression for observations assigned to Latent Class 2 by finite mixture modeling (FMM). This model predicts the leadership effectiveness score for each leadership quality (holding constant the other leadership qualities), and simplifies the policy functions (i.e., lines) by removing the curvilinearities in the polynomial functions shown in

Figures 4.8 and 4.9. The dashed line identifies the mean of the leadership effectiveness scores for observations classified into Latent Class 2. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

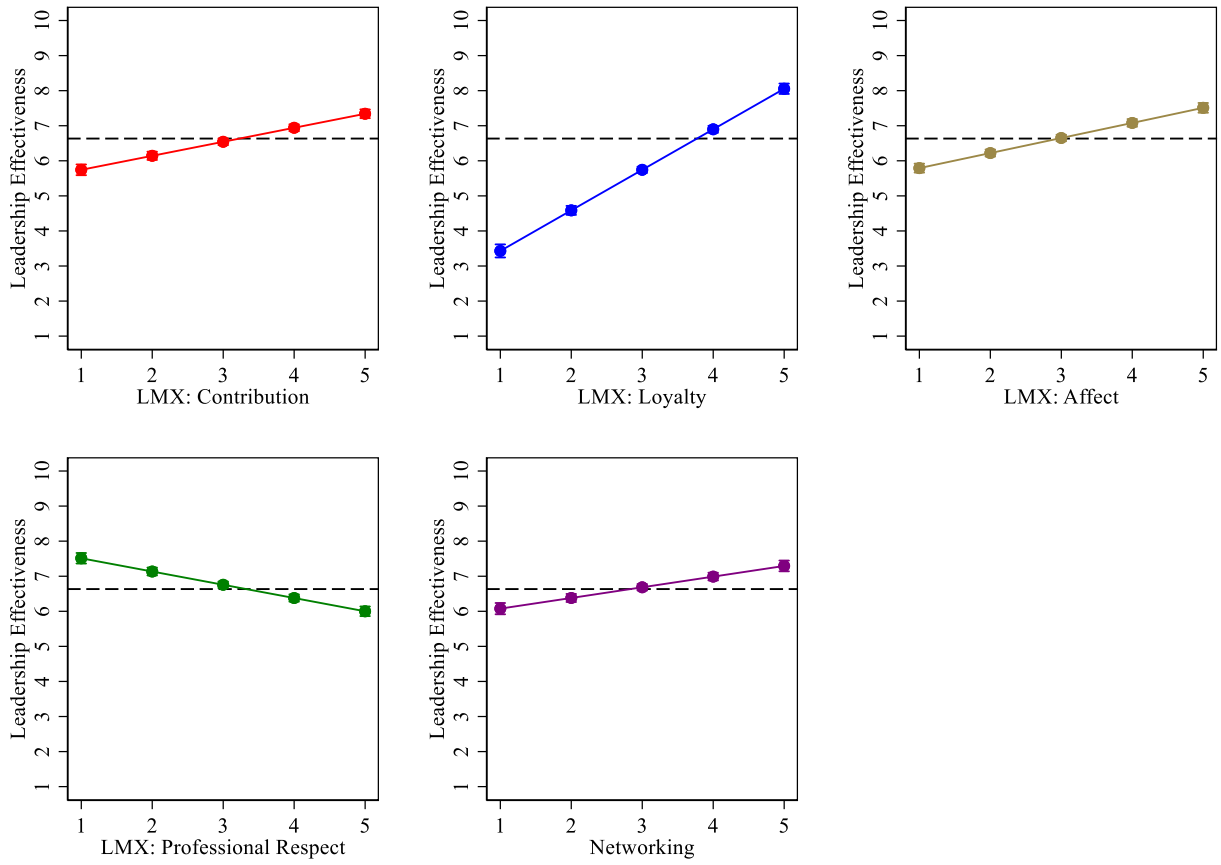

Figure 4.11. Combination margins plots of the effects of the five leadership qualities on the leadership effectiveness score for observations classified by FMM as Latent Class 2. The dashed line indicates the mean leadership score for the class and reflects the effect of each leadership quality on the leadership effectiveness scores. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The ordinary least squares (OLS) model indicates that the single-most important leadership quality valued by Latent Class 2 is, consistently, the LMX quality of loyalty (blue) with a strong, "the more, the better" judgment policy. This quality represents the loyalty that teachers believe they can expect from the leader toward them. LMX:loyalty, with a steep,

positive slope demonstrates a direct correlation with an increase in leadership effectiveness scores and is the most important component in Latent Class 2's judgment strategy. To a lesser extent, LMX:contribution, LMX:affect, and networking have positive effects on leadership scores within the strategy reflected in Latent Class 2. LMX:professional respect, which reflects the leader's competence, knowledge, and skills, has a surprisingly negative effect in the judgment strategy of the second latent class.

As Figure 4.11 indicates, LMX:loyalty has a substantial positive effect on the leadership scores for the second latent class. When that quality is below 4 (*above average*), it substantially reduces the leadership effectiveness score, but when it reaches 5 (*far above average*), it has a very positive effect on the leadership effectiveness score. LMX:contribution, LMX:affect, and networking have somewhat positive effects on the leadership scores in Latent Class 2, whereas LMX:professional respect has a somewhat negative effect.

The radar graph shown in Figure 4.12 shows the SJA OLS regression coefficients (see Table 4.9) that indicate the direction and relative magnitudes of the effects of the individual leadership qualities in the Latent Class 2 overall strategy. LMX:affect, LMX:contribution, and network all have positive effects on the leadership effectiveness scores assigned in Latent Class 2. As discussed above, the negative view of LMX:professional respect can be seen clearly in the radar graph for Latent Class 2.

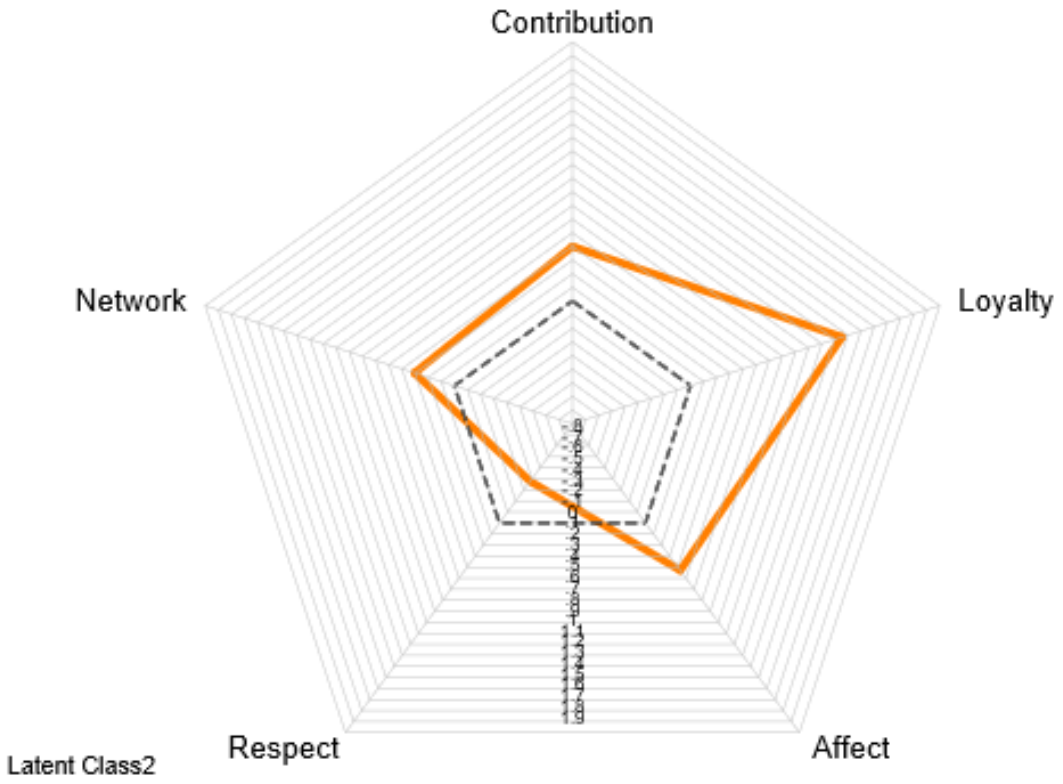

Figure 4.12. Radar graph for Latent Class 2 leadership effectiveness judgment strategy. The length of each spoke in the graph (individual leadership quality weight) is proportional to the magnitude of the leadership effectiveness score and indicative of the relationship of the importance of each leadership quality relative to the overall judgment strategy of Latent Class 2.

Latent Class 3

The strategy and judgment policies of the third latent class are shown in the quadratic regression results from the 5-class finite mixture model (FMM) and are presented in Table 4.10.

Table 4.10

Finite Mixture Model With Quadratic Regression for Latent Class 3

Leadership quality	*b*	*SE*	*z*	*p*	[95% CI]	
LMX:contribution	-0.82	0.32	-2.55	.011	-1.45	-0.19
LMX:contribution^2	0.11	0.05	2.12	.034	0.01	0.21
LMX:loyal	1.82	0.39	4.67	< .001	1.06	2.59
LMX:loyal^2	-0.36	0.07	-5.45	< .001	-0.49	-0.23

LMX:affect	4.46	0.35	12.89	< .001	3.78	5.13
LMX:affect^2	-0.86	0.06	-15.32	< .001	-0.97	-0.75
LMX:respect	1.71	0.32	5.37	< .001	1.08	2.33
LMX:respect^2	-0.33	0.05	-6.62	< .001	-0.42	-0.23
network	0.38	0.30	1.26	.208	-0.21	0.98
network^2	0.01	0.05	0.18	.859	-0.09	0.11
Error variance	1.93	0.23			1.53	2.45

Note. SE estimated as robust *SE* adjusted for case-specific clusters. For the key to variable names, see Table 4.1

The judgment policies reflected in the strategy represented by Latent Class 3 are visualized in Figures 4.13 and 4.14. Figure 4.13 depicts the observed judgment policies and judgment strategy from the actual data. Figure 4.14 shows the predicted (or modeled) judgment policies and strategy using FMM with quadratic regression to determine the data points.

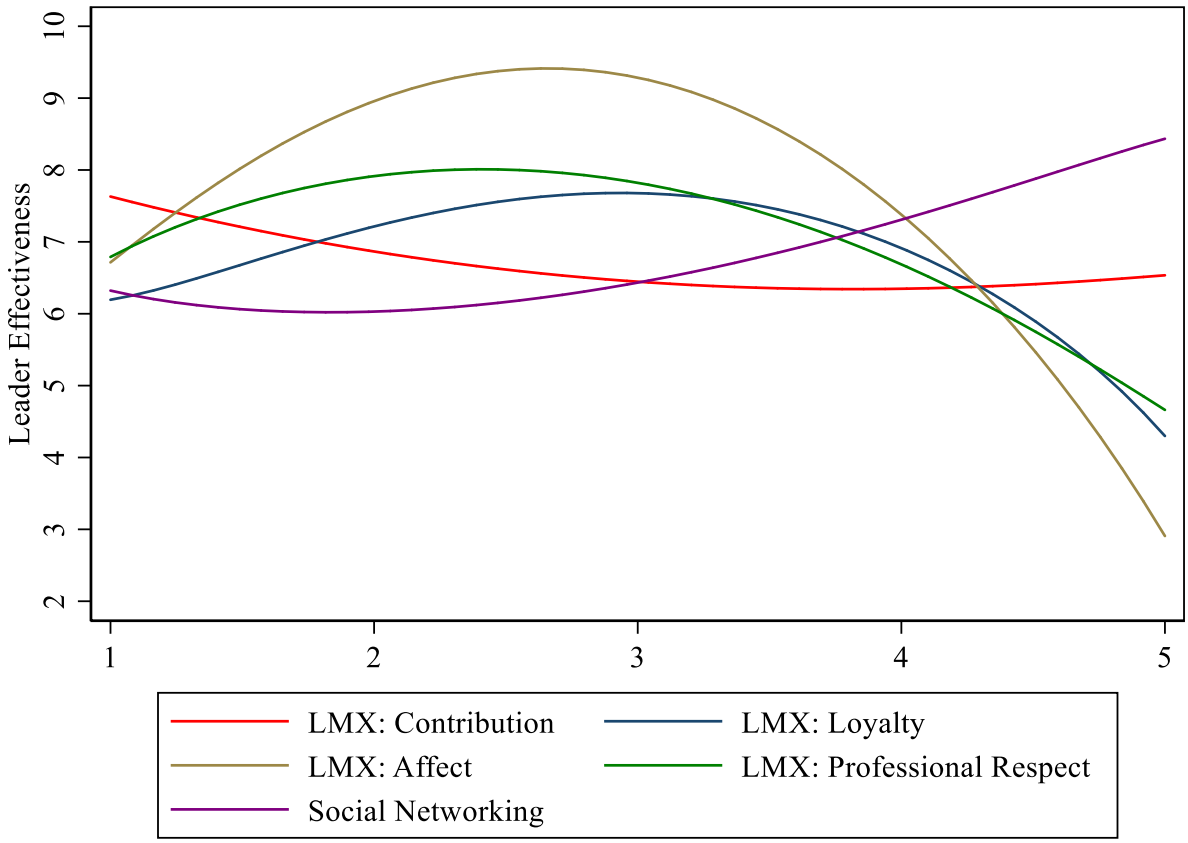

Figure 4.13. Observed judgment policies and overall judgment strategy of Latent Class 3 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

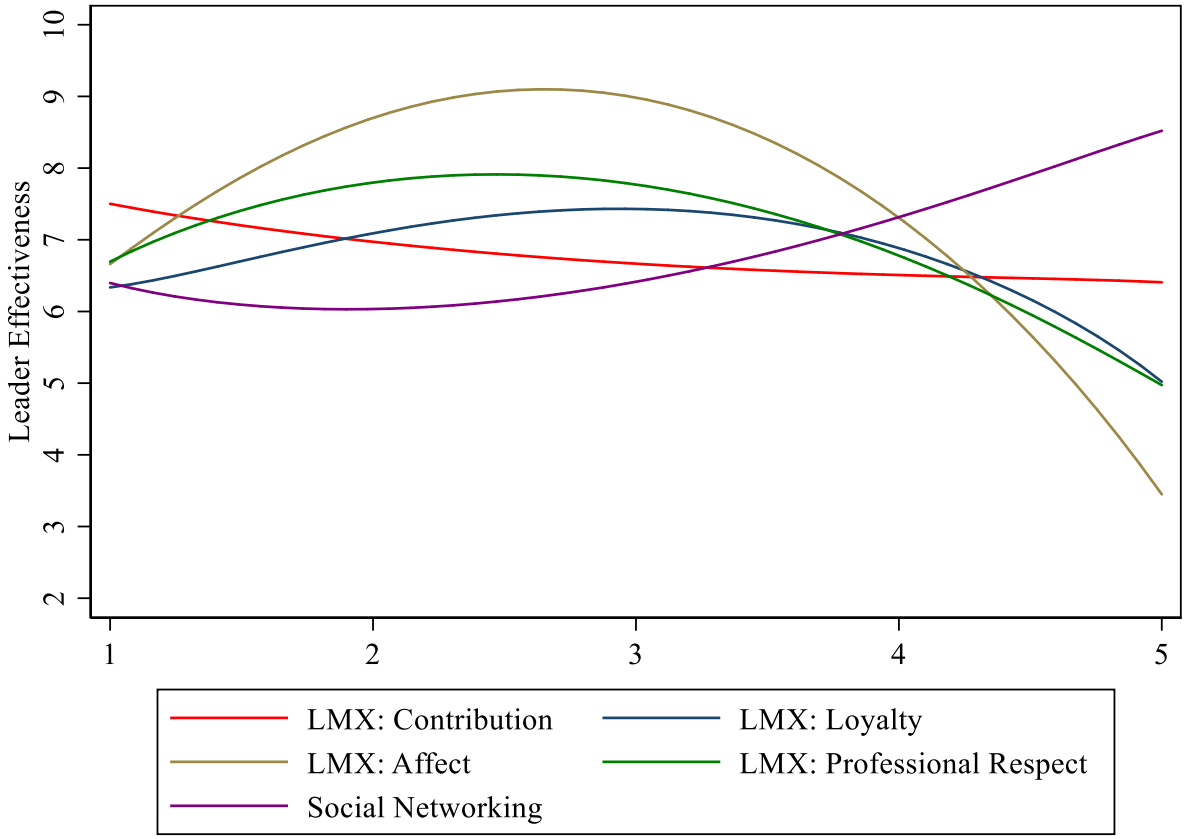

Figure 4.14. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 3 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The curvilinear lines of the judgment policies related to LMX:professional respect (green) and LMX:loyalty (blue) are similar in that they reflect, to varying degrees, a policy of "more is better" between 1 (*far below* average) and 2 (*below average*), but then the policies change to "the less, the better" as the leadership quality levels increase. The leadership quality LMX:affect (tan) displays a clear inverted U-shape of "the more the better, to a point, then the

less, the better." The negative slope of LMX:contribution (red) shows a slight "the less, the better" policy across all levels of the quality. The leadership quality of network (purple) stands out as the only judgment policy in the Latent Class 3 strategy with a positive influence on the leadership effectiveness scores. The positive slope which starts rather flat and increases in rate starting at *just about average* (3), reflects a "the more, the better" judgment policy for Latent Class 3.

Although the quadratic regression and visualizations above present the most detailed view of the complexities of the judgment policies and judgment strategy of Latent Class 3, ordinary least squares (OLS) regression offers a clearer, simplified model that is more directly interpretable both statistically and graphically. As shown in Table 4.11, the OLS regression model is highly statistically significant ($F_{(5, 195)} = 639.49$, $p < .001$).

Table 4.11

Ordinary Least Squares Linear Regression for Observations Assigned to Latent Class 3

Leadership quality	*b*	*SE*	*t*	*p*	[95% CI]	
LMX:contribution	0.54	0.06	9.12	< .001	0.42	0.65
LMX:loyal	0.57	0.08	6.8	< .001	0.41	0.74
LMX:affect	-0.39	0.07	-5.22	< .001	-0.54	-0.24
LMX:respect	0.03	0.08	0.34	.735	-0.13	0.18
network	1.38	0.06	24.22	< .001	1.26	1.49

Note. $N_{observations} = 711$, $F_{(5, 195)} = 639.49$ ($p < .001$), $R^2 = .81$, Robust *SE* adjusted for clusters based on subject ID, *RMSE* = 3.21. For the key to variable names, see Table 4.1.

The single most important factor in Latent Class 3 is networking ($b = 1.38$, $p < .001$). This quality represents the leader who knows and works in accordance with the strengths and talents of the staff, often going outside of the formal organizational structure. In Latent Class 3 networking is 2.56 times as important as LMX:contribution ($b = 0.54$, $p < .001$), and 2.42 times as important as LMX:loyalty ($b = 0.57$, $p < .001$). The LMX:professional respect leadership

quality does not have a statistically significant effect ($p = .735$) on leadership scores, and the negative impact of LMX:affect ($b = -0.39$, $p < .001$) has only slightly more than a quarter (.28) of the importance of the leadership quality of networking in Latent Class 3's judgment strategy.

The overall judgment strategy in Latent Class 3 values the leader's ability to work outside the formal boundaries and structure (networking), as the most important indicator of leadership effectiveness. To a substantial—but far less important—degree, this strategy also places a high value on the leader's having loyalty to the teachers (LMX:loyalty) and inspiring the them to make a contribution (LMX:contribution). The leadership quality of being likeable (LMX:affect) was judged to be fourth in importance but it has a negative impact on the leadership effectiveness score. Latent Class 3 teachers are generally consistent in the application and employment of the judgment policies represented in this strategy, employing its policies about 81% of the time ($R^2 = .81$). This is, however, the least consistent strategy of the five latent classes (cf., $R^2_{Class4} = .86$, $R^2_{Class2} = .95$, $R^2_{Class1} = .96$, and $R^2_{Class5} = .97$). Based upon the marginal latent class membership probability, the probability of a teacher employing a Latent Class 3 strategy is about 16%.

Figure 4.15 presents an overlay of the margins plots of the linear functions of the ordinary least squares (OLS) regression for observations classified as Latent Class 3 by finite mixture modeling (FMM). This figure provides a visualization of the overall strategy, combining the separate policy functions for each leadership quality. In Figure 4.16, the strategy for Latent Class 3 is decomposed into individual panels for each judgment policy. Each of the panels in this figure shows the effect of the respective leadership quality on the leadership score in comparison to the mean score for Latent Class 3.

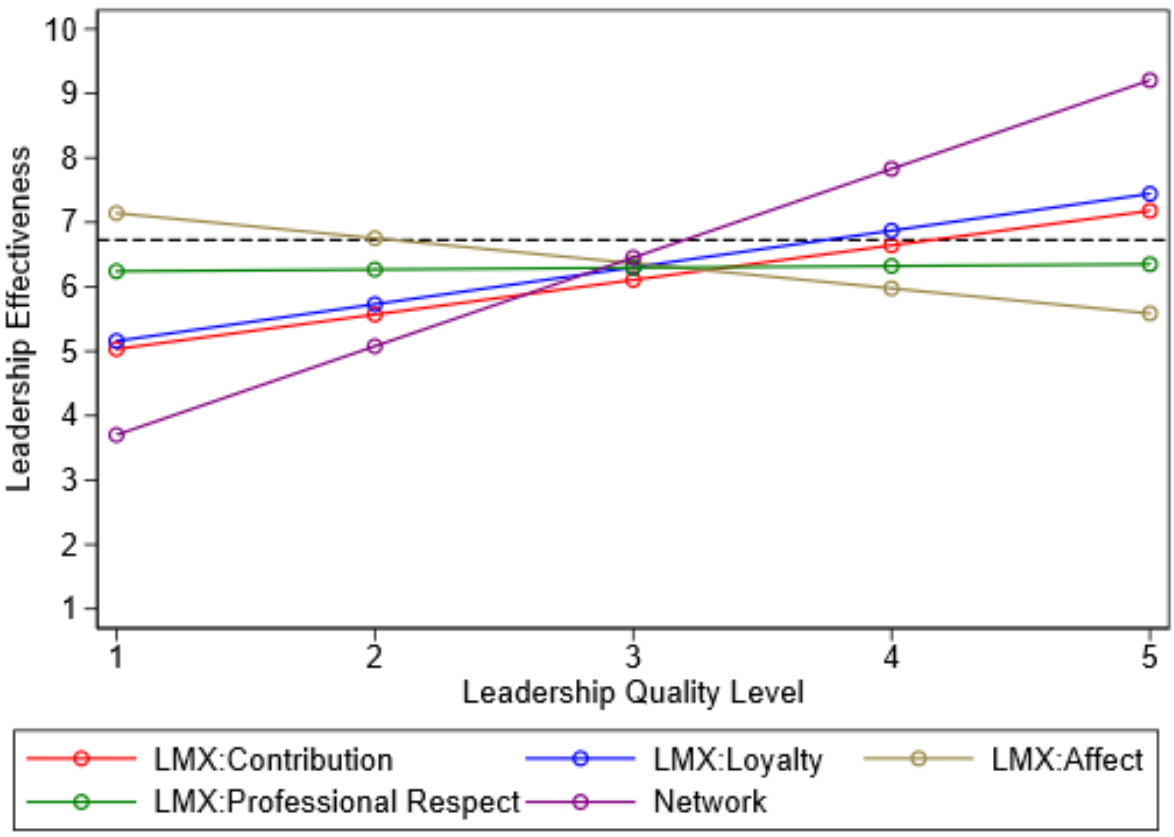

Figure 4.15. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 3 as revealed in the OLS regression for observations assigned to Latent Class 3 by finite mixture modeling (FMM). This model predicts the leadership effectiveness score for each leadership quality (holding constant the other leadership qualities), and simplifies the policy functions (i.e., lines) by removing the curvilinearities in the polynomial functions shown in Figures 4.13 and 4.14. The dashed line identifies the mean of the leadership effectiveness scores for observations classified into Latent Class 3. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

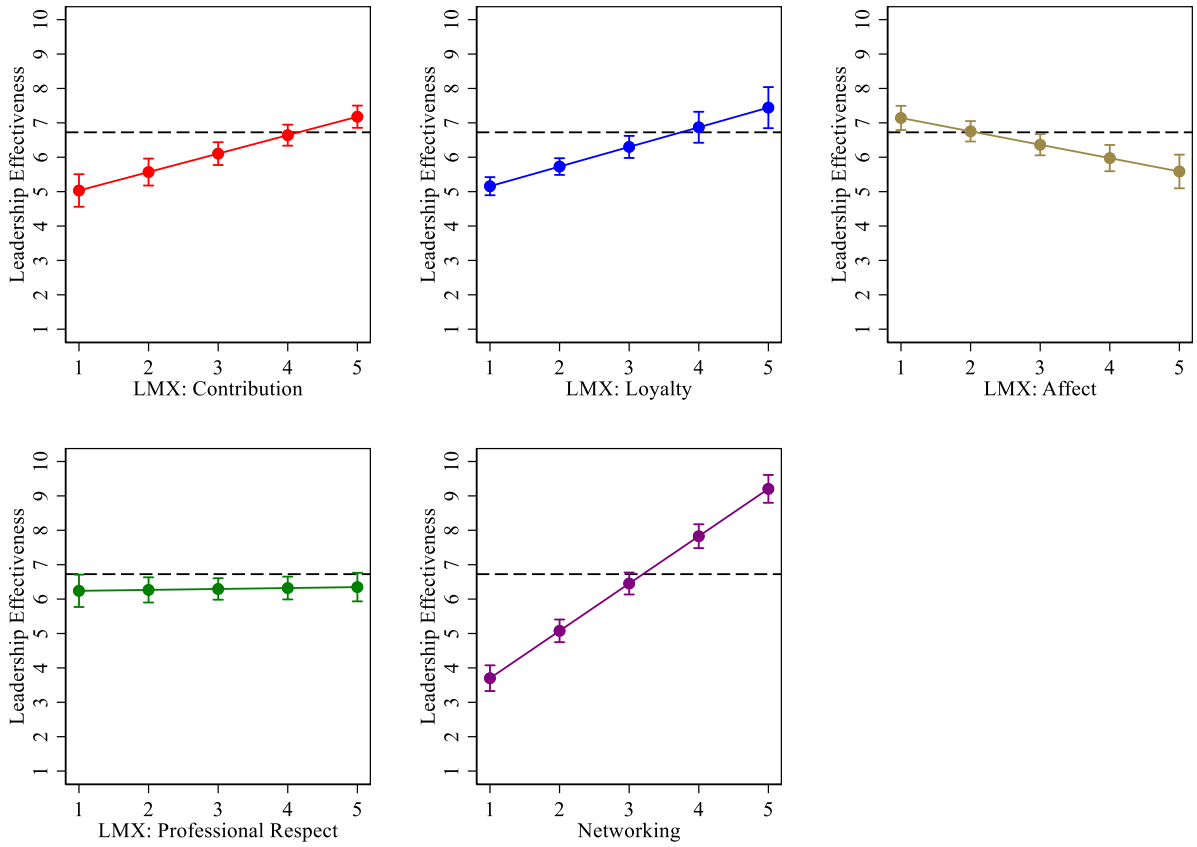

Figure 4.16. Combination margins plots of the effects of the five leadership qualities on the leadership effectiveness score for observations classified by FMM as Latent Class 3. The dashed line indicates the mean leadership score for the class and reflects the effect of each leadership quality on the leadership effectiveness scores. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The ordinary least squares (OLS) regression model (Figure 4.15) indicates that networking is the most important leadership quality valued by Latent Class 3. Networking (purple) has the steepest slope and a "the more, the better" judgment policy. LMX:contribution (red) and LMX:loyalty (blue) are less important but their judgment policies also indicate "the more, the better." The negative slope of LMX:affect (tan) conveys a negative correlation with leadership effectiveness scores and a "the less, the better" judgment policy. As Figure 4.16 indicates, networking has a substantial and the greatest effect on the mean leadership score for

the third latent class. When networking is below average, it substantially reduces the leadership effectiveness score, and when it is above average it has a similar positive effect on the leadership effectiveness score. LMX:contribution and LMX:loyalty have moderately positive effects on the leadership effectiveness score, and LMX:affect has a moderately negative effect on the effectiveness score. LMX:professional respect has essentially no effect on the leadership effectiveness score in Latent Class 3.

The radar graph shown in Figure 4.17 shows the SJA OLS regression coefficients (see Table 4.11). LMX:loyalty and LMX:contribution have a positive effect on the overall judgment strategy of Latent Class 3. The level of LMX:affect is important, reflecting a negative impact on the leadership effectiveness scores assigned in Latent Class 3. As previously discussed, the leadership quality of networking stands out as the most influential and positive leadership quality, having a strong impact on the leadership effectiveness scores and an important role in the overall judgment strategy of Latent Class 3.

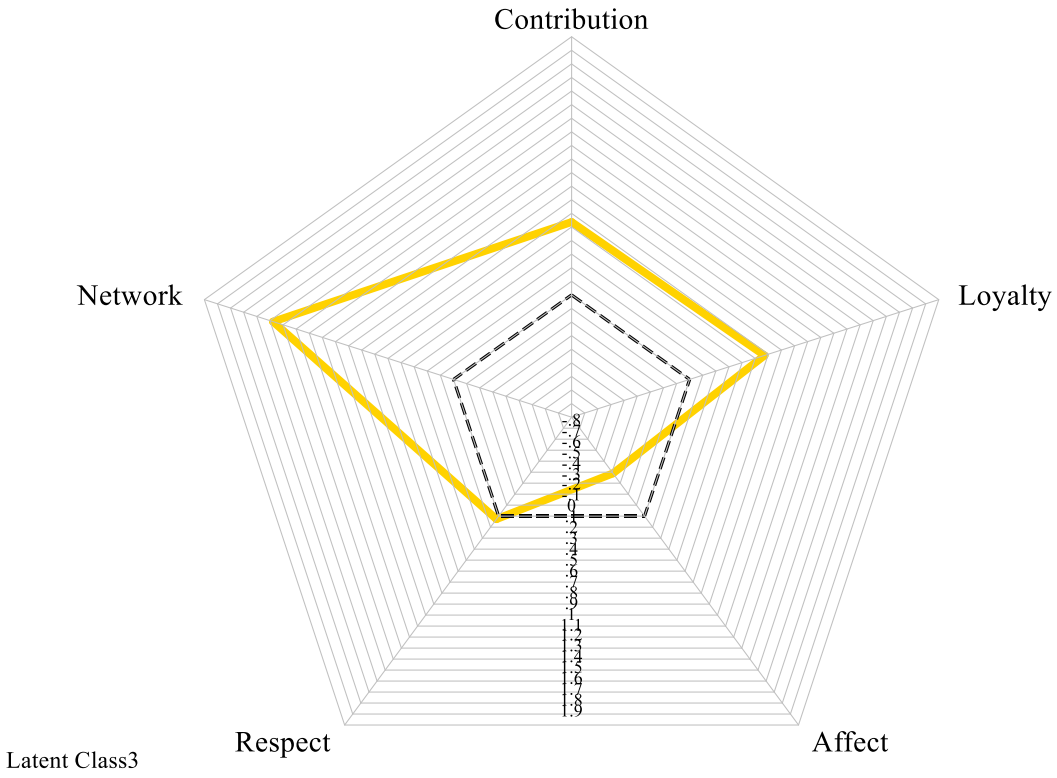

Figure 4.17. Radar graph for Latent Class 3 leadership effectiveness judgment strategy. The length of each spoke in the graph (individual leadership quality weight) is proportional to the magnitude of the leadership effectiveness score and indicative of the relationship of the importance of each leadership quality relative to the overall judgment strategy of Latent Class 3.

Latent Class 4

The fourth latent class's judgment policies for the leadership qualities of effective school leaders and its overall strategy are shown in the 5-class finite mixture model (FMM) quadratic regression results presented in Table 4.12. The observed data, visualized in Figure 4.18, revealed the five judgment policies and overall judgment strategy of Latent Class 4. The curvilinear, modeled, visualizations of the teacher judgment policies and judgment strategy reveal the true shape and detail of Latent Class 4's preferences. The quadratic regression results from Table 4.12 are shown in a visual model of this class's judgment policies and overall judgment strategy in Figure 4.19.

Table 4.12

Finite Mixture Model With Quadratic Regression for Latent Class 4

Leadership quality	*b*	*SE*	*z*	*p*	[95% CI]	
LMX:contribution	0.43	0.26	1.64	.100	-0.08	0.94
LMX:contribution^2	-0.15	0.05	-2.98	.003	-0.25	-0.05
LMX:loyal	-3.80	0.31	-12.20	< .001	-4.41	-3.19
LMX:loyal^2	0.50	0.05	9.65	< .001	0.40	0.60
LMX:affect	-0.67	0.23	-2.88	.004	-1.12	-0.21
LMX:affect^2	0.01	0.04	0.18	.857	-0.08	0.10
LMX:respect	2.56	0.22	11.43	< .001	2.12	3.00
LMX:respect^2	-0.33	0.04	-9.24	< .001	-0.40	-0.26
network	6.29	0.39	16.07	< .001	5.52	7.05
network^2	-0.88	0.06	-15.10	< .001	-1.00	-0.77
Error variance	0.45	0.15			0.24	0.86

Note. SE estimated as robust *SE* adjusted for case-specific clusters. For the key to variable names, see Table 4.1.

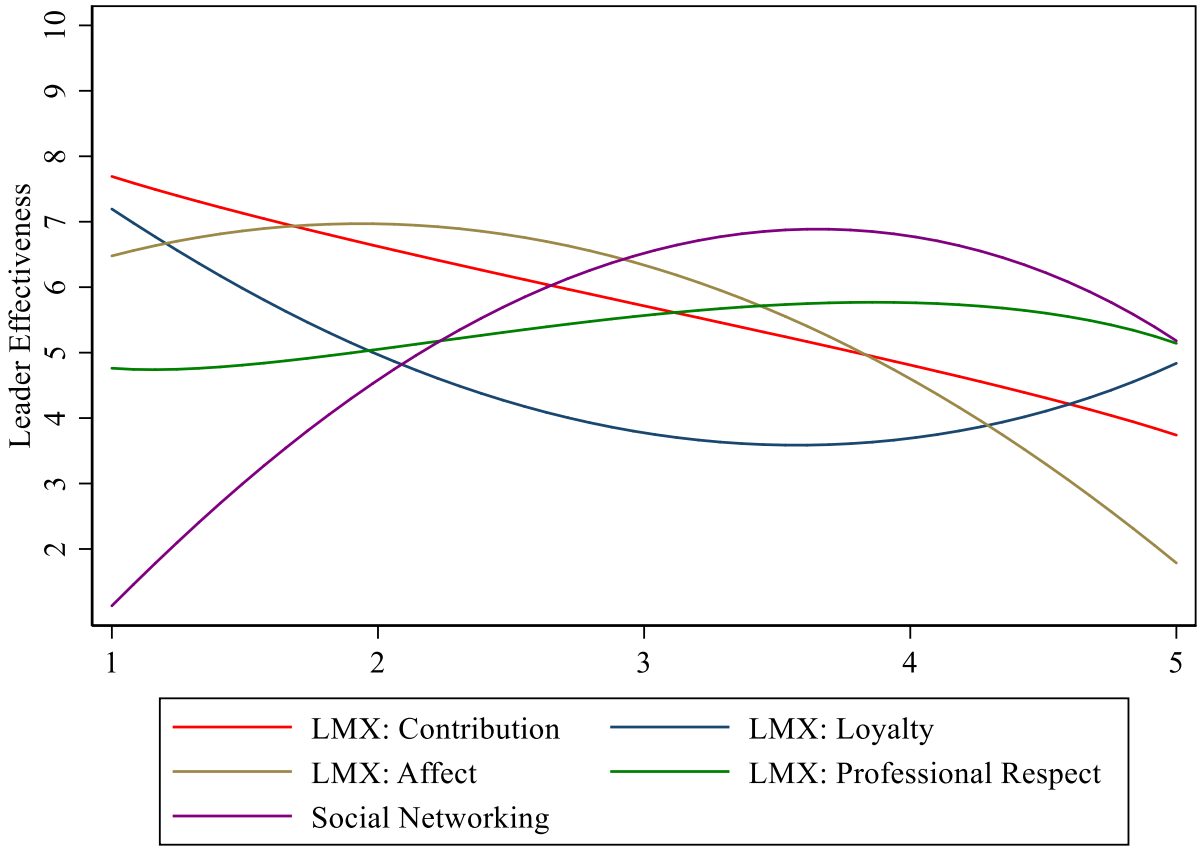

Figure 4.18. Observed judgment policies and overall judgment strategy of Latent Class 4 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

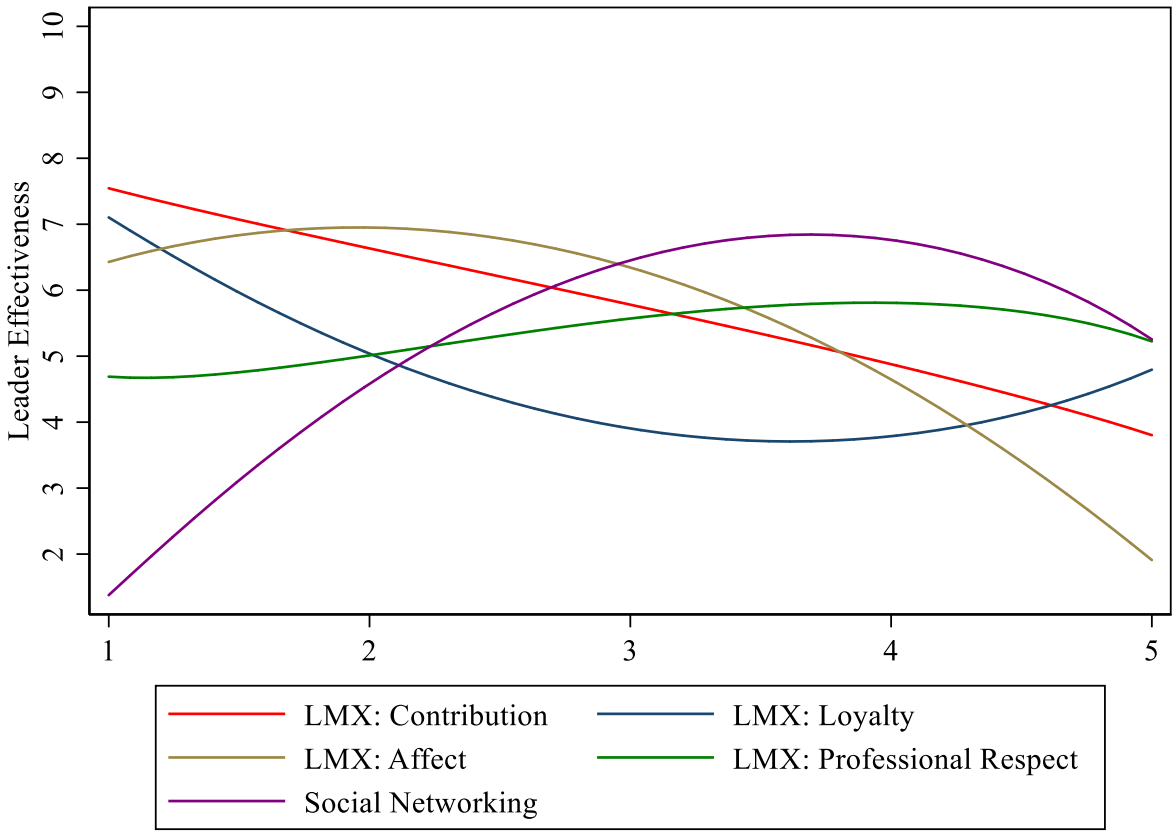

Figure 4.19. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 4 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The curvilinear lines in Figure 4.19 for LMX:affect (tan) and LMX:contribution (red) take the form of a generally negative slope with a "the less, the better" judgment policy. The negative slope of LMX:contribution reveals a correlation between the magnitude of this leadership quality and the assignment of the leadership effectiveness score. The LMX:affect (tan) function starts off relatively flat, before turning into a slightly negative slope until it reaches 3 (*below average*). At that point it drops off dramatically as the magnitude of the leadership quality increases to 5 (*far above average*). The judgment policy for LMX:affect could best be described as "no change to a point, then the less, the better." The positive curve of the network

leadership quality (purple) increases with a positive slope representing a policy of "the more, the better" up to level 4 (*above average*). Thereafter, it drops off into a "the less, the better" policy as the level of this leadership quality rises to 4 (*above average*). LMX:loyalty (blue) reveals a mirror opposite to that of the networking leadership quality. The negative slope of the LMX:loyalty judgment policy shows a decline in leadership scores until the function reaches 3 (*average*). This policy can be described as, "the less, the better to a point (*average*), then the more, the better."

Following the complex quadratic regressions and associated visualization models, the simplified, ordinary least squares (OLS) linear regression provides additional insight and is presented in Table 4.13.

Table 4.13

Ordinary Least Squares Linear Regression for Observations Assigned to Latent Class 4

Leadership quality	*b*	*SE*	*t*	*p*	[95% CI]	
LMX:contribution	0.28	0.05	5.57	< .001	0.18	0.37
LMX:loyal	-0.82	0.07	-11.35	< .001	-0.96	-0.68
LMX:affect	-0.75	0.06	-13.04	< .001	-0.87	-0.64
LMX:respect	1.07	0.07	15.27	< .001	0.93	1.21
network	1.46	0.05	26.86	< .001	1.35	1.57

Note. $N_{\text{observations}} = 517$, $F_{(5, 165)} = 750.47$, ($p < .001$), $R^2 = .86$, Robust *SE* adjusted for clusters based on subject ID, *RMSE* = 2.19. For the key to variable names, see Table 4.1.

The ordinary least squares (OLS) regression model for Latent Class 4 is highly statistically significant ($F_{(5, 165)} = 750.47$, $p < .001$). The single most important factor in this latent class is the leadership quality of networking ($b = 1.46$, $p < .001$). Knowledge of the social network and working outside of the formal structure was assigned a priority that is 5.21 times as important as the LMX:contribution ($b = 0.28$, $p < .001$), and 1.36 times as important as

LMX:respect (b = 1.07, p < .001). The impacts of LMX:loyalty (b = -0.82, p < .001) and LMX:affect (b = -0.75, p < .001) were both negative, implying that the judgment strategy in Latent Class 4 does not value the school leader's loyalty to the teacher nor the leader's likability when assigning leadership effectiveness scores. In fact, teachers in Latent Class 4 tend to consider these qualities a hindrance to the leader's effectiveness.

I interpret Latent Class 4 as a strategy that values and equates the leadership qualities of networking and LMX:professional respect with very high levels of leadership effectiveness. By contrast, Latent Class 4's judgment policies for LMX:loyalty and LMX:affect reveal that higher levels of these leadership qualities are a detriment to the effectiveness of a school leader. The judgment strategy of Latent Class 4 associates leadership effectiveness with the professional experience and credentials of leaders who know how and when to work outside of the formal boundaries of the social network. In the view of Latent Class 4, the effective school leader is not necessarily likable or loyal to the teacher, but such a leader clearly has the skills for the role and taps into the professional strengths of the staff, regardless of formal titles.

Teachers whose strategy is reflected by Latent Class 4 apply the judgment strategy of this latent class consistently about 86% (R^2 = .86) of the time. In that regard, they are slightly more consistent than those in Latent Class 3 (R^2 = .81) and considerably less consistent than those in Latent Classes 1, 2, and 5 ($R^2 \geq .95$). Based upon the marginal probability for Latent Class 4, the probability of a teacher holding the set of judgment policies and judgment strategy for Latent Class 4 is only 9%.

Figure 4.20 presents an overlay of the margins plots of the linear functions of the ordinary least squares (OLS) regression for observations classified as Latent Class 4 by finite mixture modeling (FMM). This figure provides a visualization of the overall strategy,

combining the separate policy functions for each leadership quality. In Figure 4.21, the strategy for Latent Class 4 is decomposed into individual panels for each judgment policy. Each of the panels in this figure shows the effect of the respective leadership quality on the leadership score in comparison to the mean score for Latent Class 4.

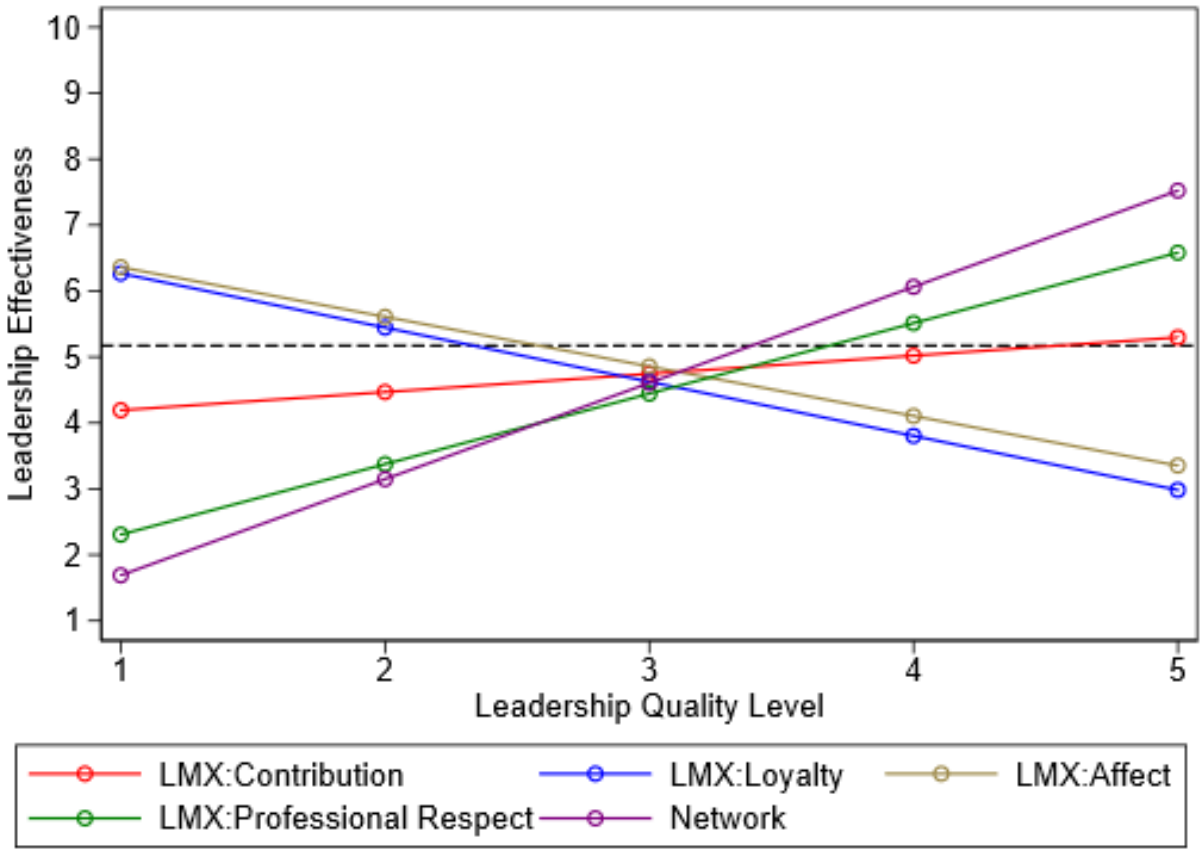

Figure 4.20. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 4 as revealed in the OLS regression for observations assigned to Latent Class 4 by finite mixture modeling (FMM). This model predicts the leadership effectiveness score for each leadership quality (holding constant the other leadership qualities), and simplifies the policy functions (i.e., lines) by removing the curvilinearities in the polynomial functions shown in Figures 4.18 and 4.19. The dashed line identifies the mean of the leadership effectiveness scores for observations classified into Latent Class 4. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

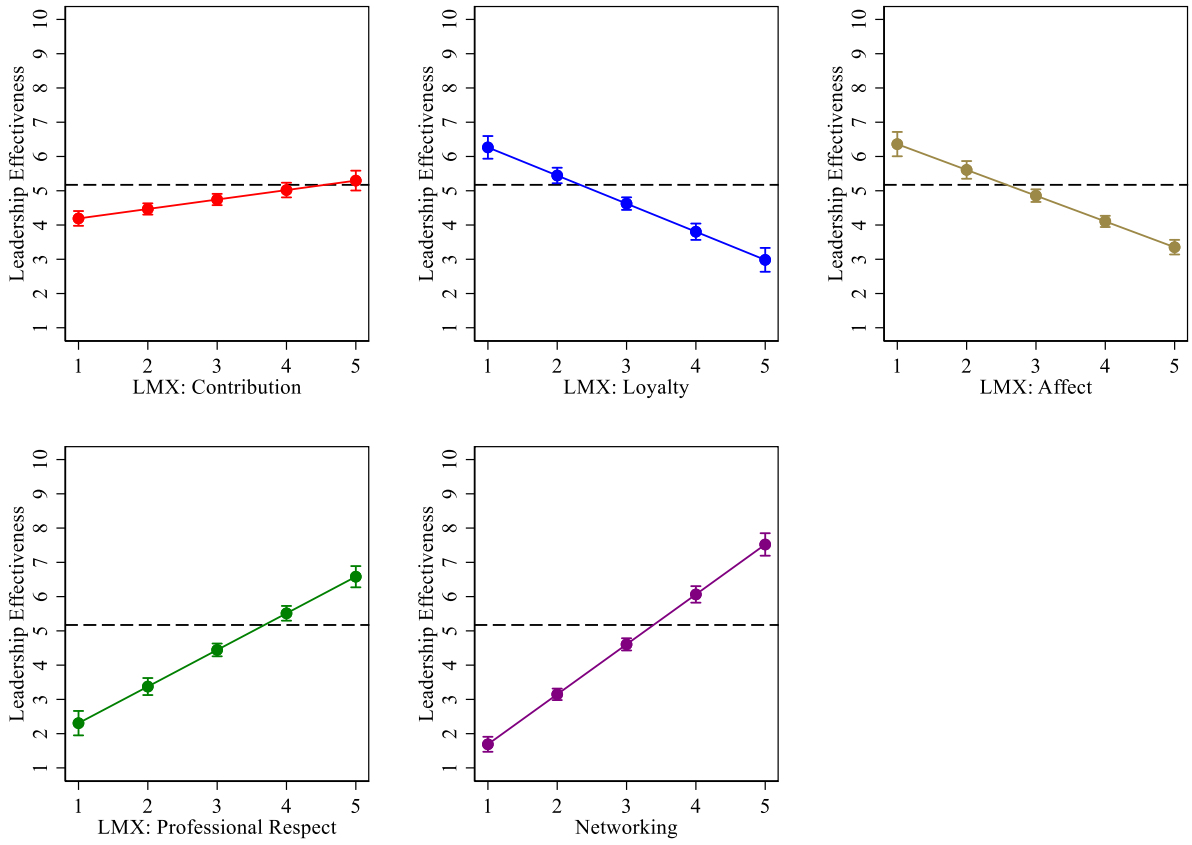

Figure 4.21. Combination margins plots of the effects of the five leadership qualities on the leadership effectiveness score for observations classified by FMM as Latent Class 4. The dashed line indicates the mean leadership score for the class and reflects the effect of each leadership quality on the leadership effectiveness scores. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The ordinary least squares (OLS) model reveals that the single-most important leadership quality valued by Latent Class 4 is networking (purple). The judgment policy of networking is one of "the more, the better," with a very strong, positive slope directly correlated with the leader effectiveness scores. Although the slope of LMX:respect (green) is less steep, it is almost as important as networking to the strategy in Latent Class 4. It should be observed, however, that leadership scores do not attain the mean level until professional respect is at least 4 (*above average*), whereas the leadership effectiveness scores reach their mean for this class only slightly

beyond 5 (*just about average*) level for networking. LMX:contribution has a positive effect on leadership scores, but its effect is far less than any of the other four qualities in the model and only reaches the mean score when it is at 5 (*far above average*). LMX:affect and LMX:loyalty both have substantial, negative effects on leadership effectiveness under the latent Class 4 strategy. Leadership effectiveness scores are only above the mean when these two qualities are at level 1 (*far below average*).

The radar graph of the social judgment analysis (SJA) OLS regression coefficients shown in Figure 4.22 clearly demonstrates that the LMX:affect, and LMX:loyalty leadership qualities are at the lowest level of contribution towards the judgment of the effectiveness of a leader. LMX:contribution has a slight above average effect on the overall judgment strategy, and the high levels of networking and LMX:leadership have a strong influence on the overall leadership effectiveness scores and judgment strategy of Latent Class 4.

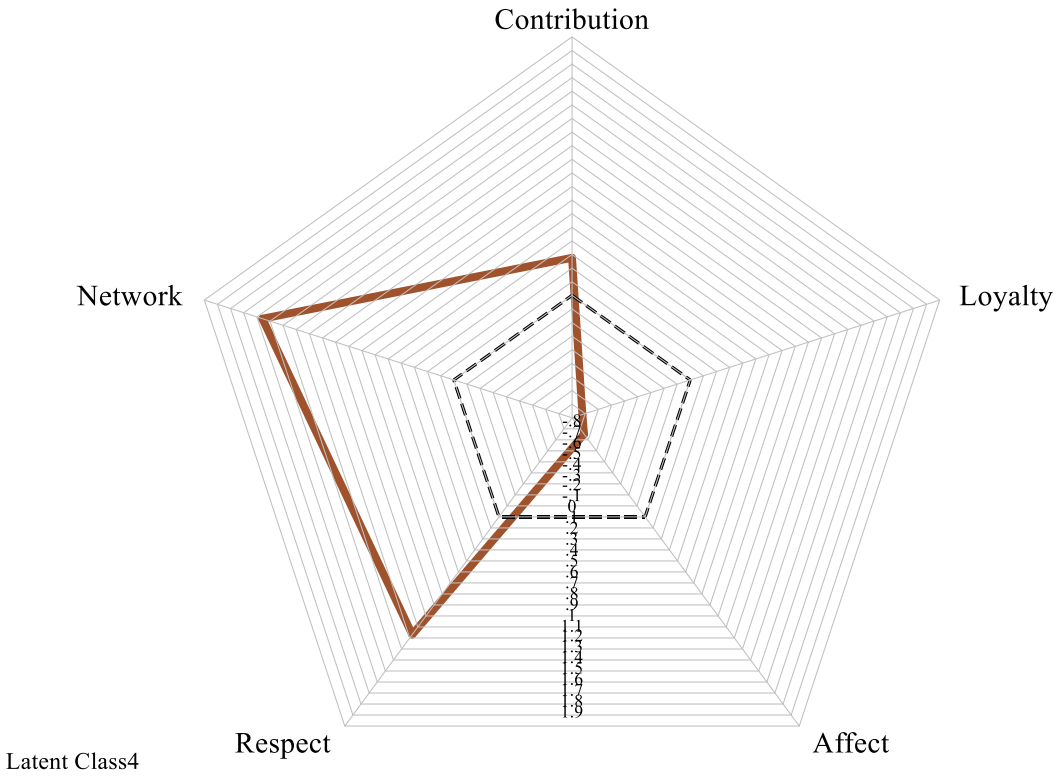

Figure 4.22. Radar graph for Latent Class 4 leadership effectiveness judgment strategy. The length of each spoke in the graph (individual leadership quality weight) is proportional to the magnitude of the leadership effectiveness score and indicative of the relationship of the importance of each leadership quality relative to the overall judgment strategy of Latent Class 4.

Latent Class 5

The judgment policies and overall strategy of the fifth latent class are shown in the quadratic regression results for the 5-class finite mixture model (FMM) presented in Table 4.14. The observed evidence revealed the five judgment policies and judgment strategy of Latent Class 5 and they are visualized in Figure 4.23. Then, the predicted (i.e., modeled) judgment policies and judgment strategy are shown in Figure 4.24.

Table 4.14

Finite Mixture Model With Quadratic Regression for Latent Class 5

Leadership quality	*b*	*SE*	*Z*	*p*	[95% CI]

LMX:contribution	-1.21	0.22	-5.63	< .001	-1.64	-0.79
LMX:contribution^2	0.27	0.04	7.28	< .001	0.20	0.35
LMX:loyal	1.03	0.44	2.33	.020	0.16	1.90
LMX:loyal^2	-0.14	0.08	-1.79	.074	-0.29	0.01
LMX:affect	-0.77	0.50	-1.56	.119	-1.74	0.20
LMX:affect^2	0.25	0.09	2.63	.008	0.06	0.43
LMX:respect	0.81	0.23	3.49	< .001	0.35	1.26
LMX:respect^2	0.13	0.03	3.89	< .001	0.07	0.20
network	2.14	0.26	8.09	< .001	1.62	2.66
network^2	-0.47	0.06	-8.46	< .001	-0.58	-0.36
Error variance	1.00	0.22			0.65	1.56

Note. SE estimated as robust *SE* adjusted for case-specific clusters. For the key to variable names, see Table 4.1.

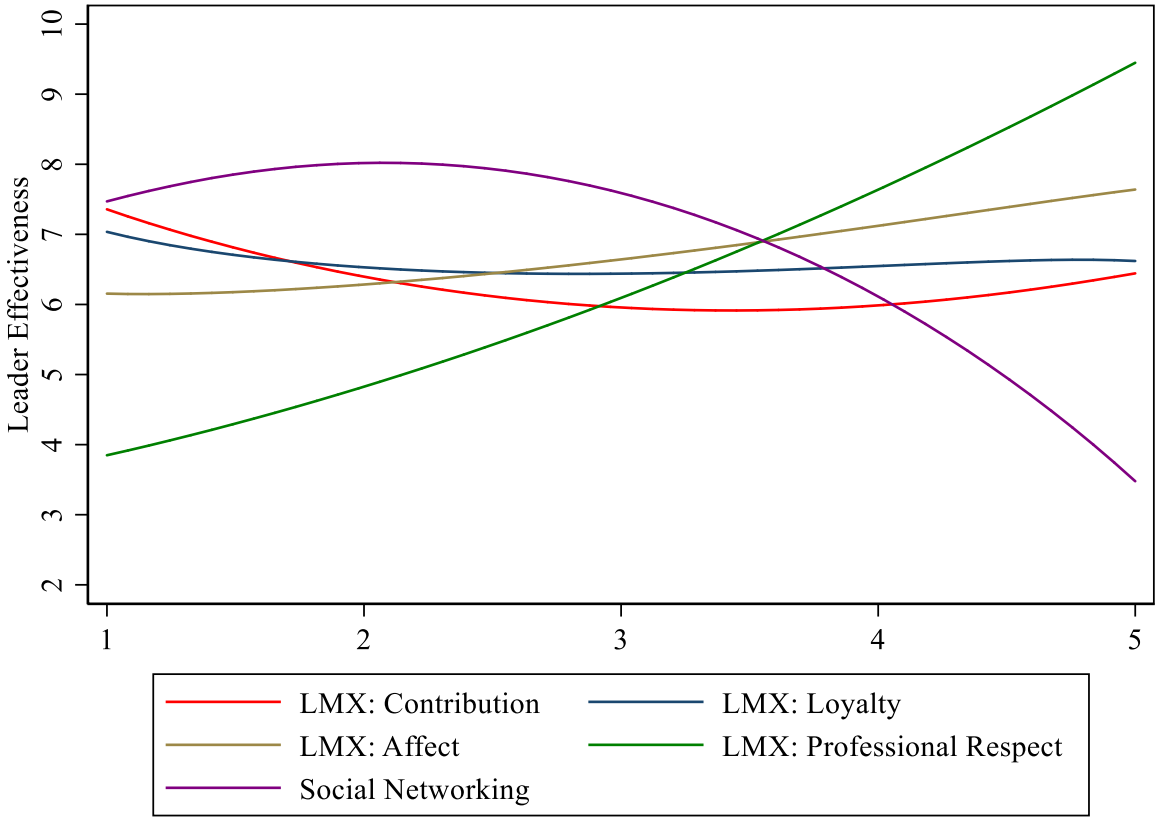

Figure 4.23. Observed judgment policies and overall judgment strategy of Latent Class 5 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

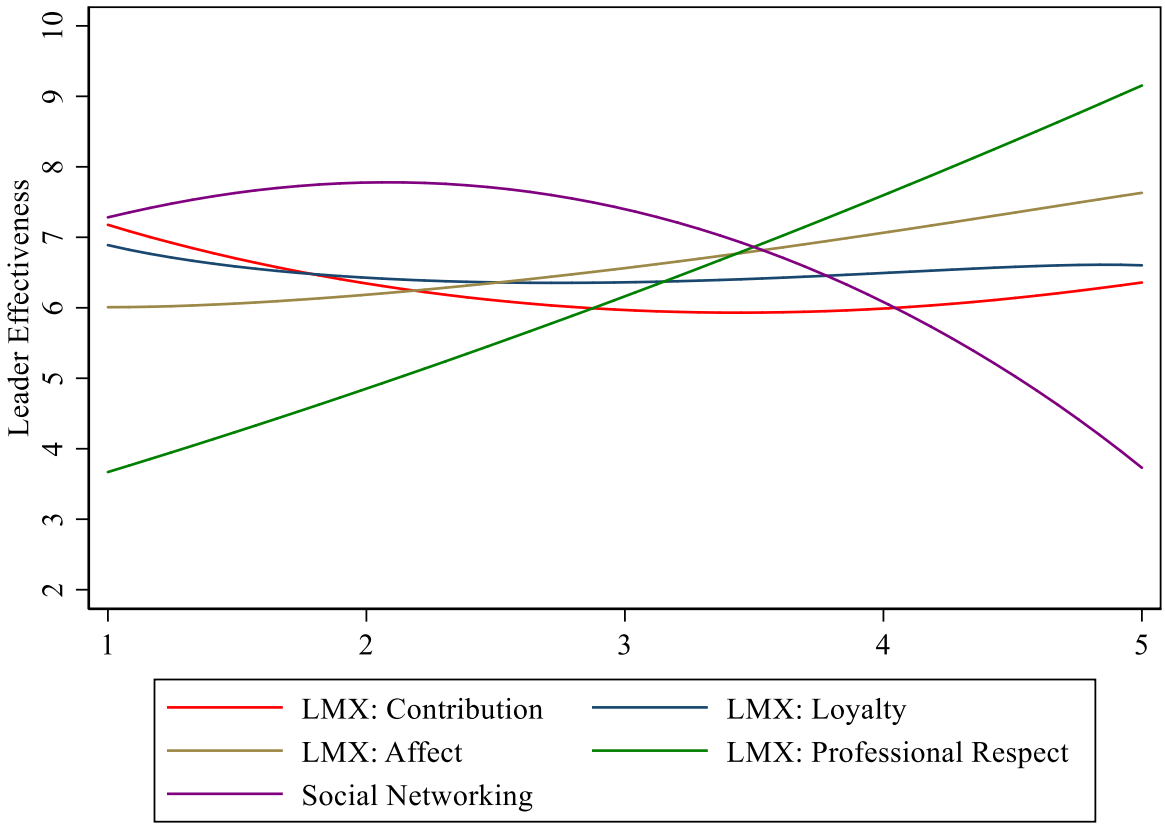

Figure 4.24. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 5 as revealed in the finite mixture model (FMM) quadratic regression. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The curvilinear lines for LMX:loyalty (tan), LMX:contribution (red), and LMX:affect (blue) have similar functions, which indicate a minimal yet consistent influence on Latent Class 5's leadership effectiveness scores. LMX:respect (green) has an apparently linear, positive slope directly proportional to the increase in the leadership effectiveness scores with a judgment policy of "the more, the better." The judgment policy for networking (purple) is about the same for

levels 1 (*far below average*) and 2 (*below average*), but then transitions into a strong policy of "the less, the better."

The complex quadratic regressions and visualizations above present the most detailed view of the complexities of the judgment policies and overall judgment strategy of Latent Class 5. Ordinary least squares (OLS) regression offers a simplified model that is clearer and easier to interpret. The OLS regression results were highly statistically significant ($F_{(5, 197)} = 6{,}679.28$, $p < .001$) and are shown in Table 4.15.

Table 4.15

Ordinary Least Squares Linear Regression for Observations Assigned to Latent Class 5

Leadership quality	*b*	*SE*	*t*	*p*	[95% CI]	
LMX:contribution	0.54	0.03	19.09	< .001	0.48	0.59
LMX:loyal	0.27	0.03	9.47	< .001	0.21	0.33
LMX:affect	0.48	0.03	15.02	< .001	0.42	0.54
LMX:respect	1.83	0.03	70.64	< .001	1.78	1.88
network	-0.87	0.04	-24.45	< .001	-0.94	-0.80

Note. $N_{\text{observations}} = 1{,}044$, $F_{(5, 197)} = 6{,}679.28$, ($p < .001$), $R^2 = .97$, Robust *SE* adjusted for clusters based on subject ID, *RMSE* = 1.36. For the key to variable names, see Table 4.1.

The single most important leadership quality in Latent Class 5 is LMX:respect ($b = 1.83$, $p < .001$). Having professional respect for the leader is assigned a priority that is 6.78 times as important as LMX:loyalty ($b = 0.27$, $p < .001$), 3.90 times as important as LMX:contribution ($b = 0.54$, $p < .001$), and 3.81 times as important as LMX:affect ($b = 0.48$, $p < .001$). The impact of network ($b = -0.87$, $p < .001$) on the leadership effectiveness scores is less than half (.47) as important as that of LMX:professional respect in the fifth latent class strategy.

The teachers in Latent Class 5 value the combination of LMX leadership qualities, particularly the quality of LMX:professional respect, although they view networking as a

negative leadership quality. Being likable (LMX:affect), inspiring teachers to work for the leader (LMX:contribution), showing loyalty to the teaching staff (LMX:loyalty), and most certainly the professional knowledge and competence of the leader (LMX:professional respect) were all judged consistently to be important, positive leadership qualities. The impact of the non-LMX leadership quality of networking reflects the detrimental impact of working beyond formal organizational structures on the teachers' perceptions of leadership effectiveness. The teachers in Latent Class 5 are highly consistent in their application and employment of their judgment policies. This is the most highly consistent strategy of the five latent classes and is employed about 97% of the time ($R^2 = 0.97$). Based upon the marginal latent class membership probability for Latent Class 5, the probability of a teacher holding the set of preferences found for Latent Class 5 is 16%.

Figure 4.25 presents an overlay of the margins plots of the linear functions of the ordinary least squares (OLS) regression for observations classified as Latent Class 5 by finite mixture modeling (FMM). This figure provides a visualization of the overall strategy, combining the separate policy functions for each leadership quality. In Figure 4.26, the strategy for Latent Class 5 is decomposed into individual panels for each judgment policy. Each of the panels in this figure shows the effect of the respective leadership quality on the leadership score in comparison to the mean score for Latent Class 5.

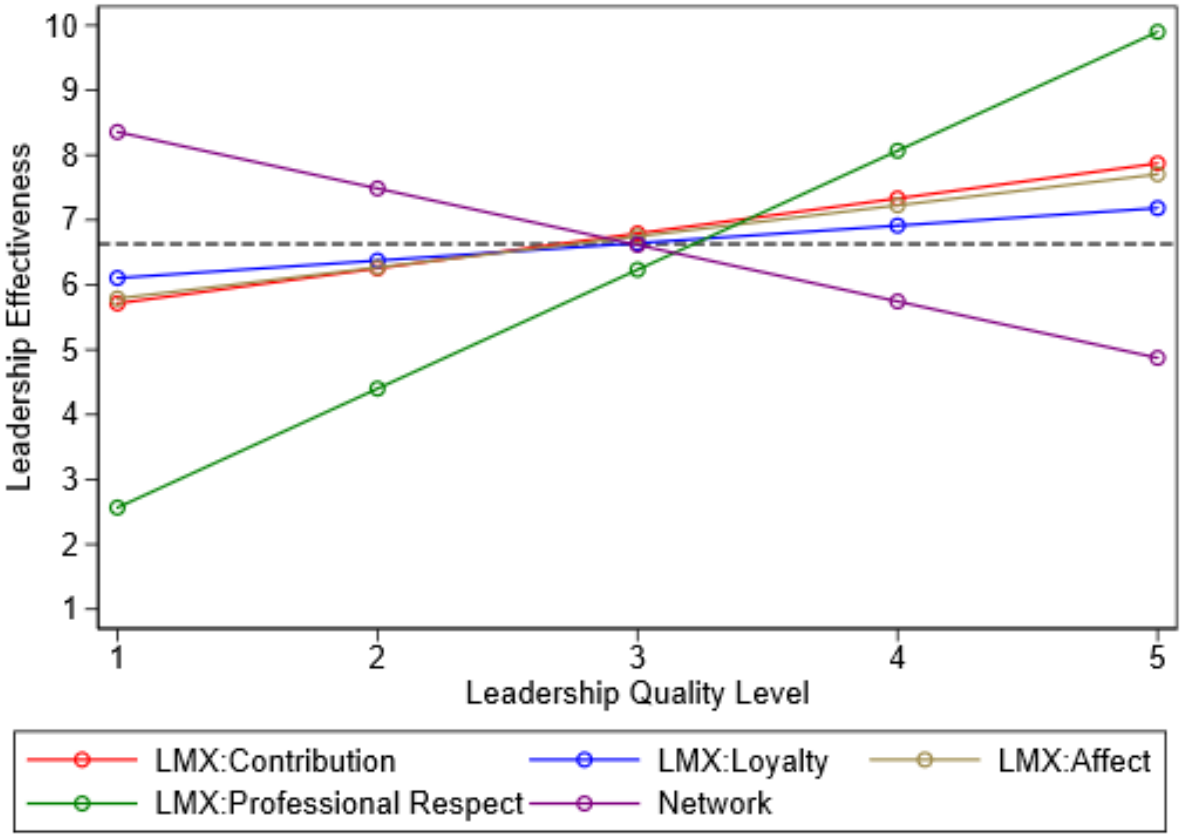

Figure 4.25. Predicted (i.e., modeled) judgment policies and overall judgment strategy of Latent Class 5 as revealed in the OLS regression for observations assigned to Latent Class 5 by finite mixture modeling (FMM). This model predicts the leadership effectiveness score for each leadership quality (holding constant the other leadership qualities), and simplifies the policy functions (i.e., lines) by removing the curvilinearities in the polynomial functions shown in Figures 4.23 and 4.24. The dashed line identifies the mean of the leadership effectiveness scores for observations classified into Latent Class 5. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

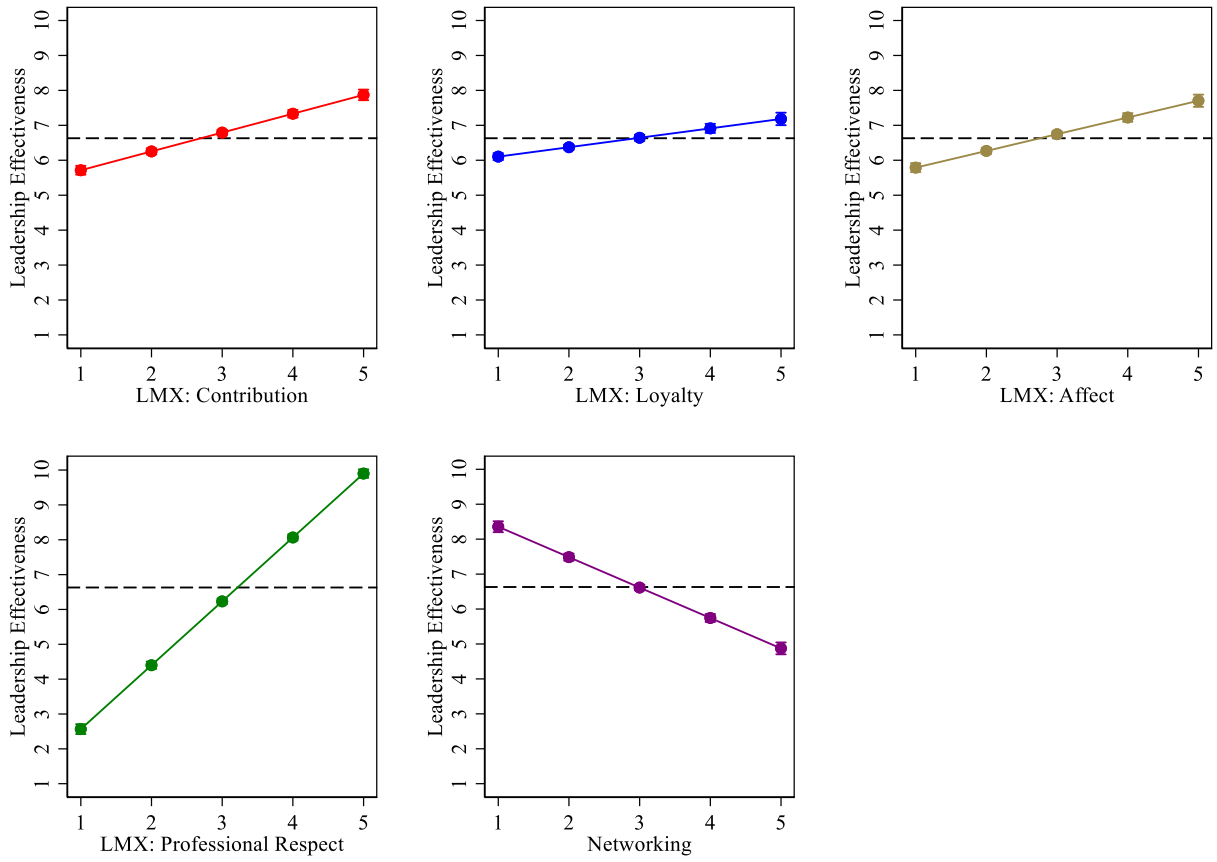

Figure 4.26. Combination margins plots of the effects of the five leadership qualities on the leadership effectiveness score for observations classified by FMM as Latent Class 5. The dashed line indicates the mean leadership score for the class and reflects the effect of each leadership quality on the leadership effectiveness scores. The x-axis reflects leadership quality levels: 1 = *far below average*; 2 = *below average*; 3 = *just about average*; 4 = *above average*; 5 = *far above average.*

The combination of ordinary least squares (OLS) margins plots presents a simplified judgment strategy as compared to the curvilinear functions in the FMM quadratic regression models. As shown in the combination of OLS margins plots for Latent Class 5. The single-most important leadership quality in this class is LMX:professional respect (green). Although the slopes of LMX:loyalty (tan), LMX:contribution (red), and LMX:affect (blue) are less steep, they all reflect "the more, the better" judgment policies. The leadership quality of working beyond formal organizational boundaries and structures (i.e., networking) is the second most influential

policy in this strategy, but its effect is strongly negative. Indeed, when networking is at a level of 3 (*just about average*) or higher, its effect is to reduce the leadership effectiveness scores. So, Latent Class 5 values the traditional LMX leadership qualities and does not embrace the leader who works outside of the formal structure and boundaries.

The radar graph depicted in Figure 4.27 shows the effects on the overall judgment strategy of Latent Class 5 of the five leadership qualities as indicated by the SJA OLS regression coefficients presented in Table 4.15. This graph illustrates dramatically that the overall judgment of the fifth latent class values the four leadership qualities asserted in the LMX theory (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden & Maslyn, 1998; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011; Schriesheim, Castro, & Cogliser, 1999) and does not see value in leadership qualities related to social networks.

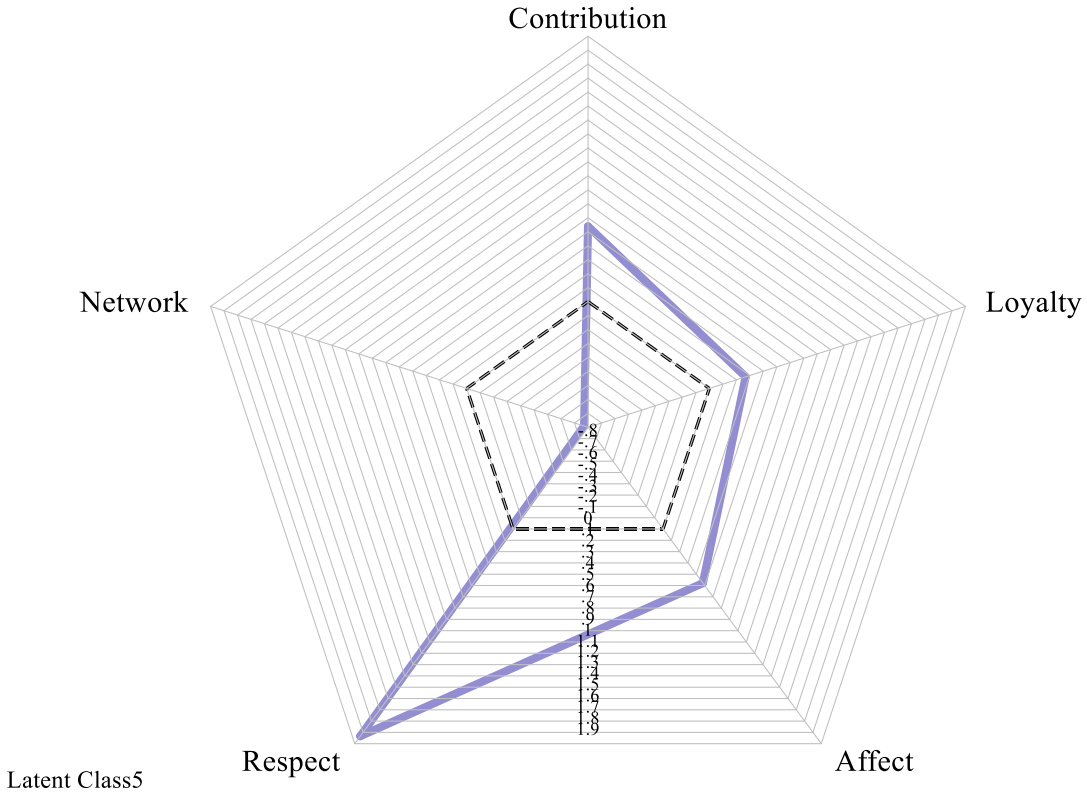

Figure 4.27. Radar graph for Latent Class 5 leadership effectiveness judgment strategy. The length of each spoke in the graph (individual leadership quality weight) is proportional to the magnitude of the leadership effectiveness score and indicative of the relationship of the importance of each leadership quality relative to the overall judgment strategy of Latent Class 5.

Putting It All Together: Synthesis of the Five Latent Class Strategies

The analysis of individual latent class judgment policies and the overall strategies they create offers tremendous insight into the unique sets of preferences that each latent class has for the qualities associated with effective leadership. In this section, I step back and consider a synthesis of all five latent class strategies from a "big picture" perspective. To do that, I first present a summary table of the SJA OLS regression models, putting those models side-by-side for ready comparison of the coefficients. These regression coefficients are all measured on the same scale and are, therefore, statistically comparable. I also provide a visualization of the regression coefficients for the five latent class strategies in the form of a radar graph, overlaying

all five strategies in a single plot. I then provide a traditional latent class line graph and a bar graph also visualizing the regression coefficients for the five separate latent class strategies. Although all of these graphs are based on the same empirical evidence (i.e., the regression coefficients), each presents a unique and distinctly informative perspective.

Table 4.16, the radar graph in Figure 4.28, and the traditional latent class line graph shown in Figure 4.29 all combine the ordinary least squares (OLS) regression coefficients for each leadership quality by latent class. The leadership quality of networking is important and about equally so in both Latent Classes 3 (yellow) and 4 (brown), whereas networking is viewed as a negative quality in Latent Class 5 (lavender). LMX:loyalty is more important in Latent Class 2 (orange) than in any other class. The leadership quality of LMX:professional respect is much more important in Latent Class 5 (lavender) than in any of the other latent classes, but it is still important in Latent Classes 1 (light blue) and 4 (brown). LMX:contribution is valued about equally in every latent class. The leadership quality of LMX:affect is viewed very differently across the latent class strategies, with regression coefficients ranging from a negative effect of -0.75 to a positive effect of 0.48. The LMX qualities of loyalty and contribution had positive effects in all five latent class judgment strategies.

Table 4.16

OLS Regression Coefficients of the Leadership Qualities by Latent Class

Leadership quality	Class 1 *b*	Class 2 *b*	Class 3 *b*	Class 4 *b*	Class 5 *b*
LMX:contribution	0.22	0.40	0.54	0.28	0.54
LMX:loyalty	0.10	1.16	0.57	-0.82	0.27
LMX:affect	0.12	0.43	-0.39	-0.75	0.48
LMX:respect	1.08	-0.38	0.03	1.07	1.83
network	0.34	0.30	1.38	1.46	-0.87

Note. $N_{observations}$ = 7,632. For the key to variable names, see Table 4.1.

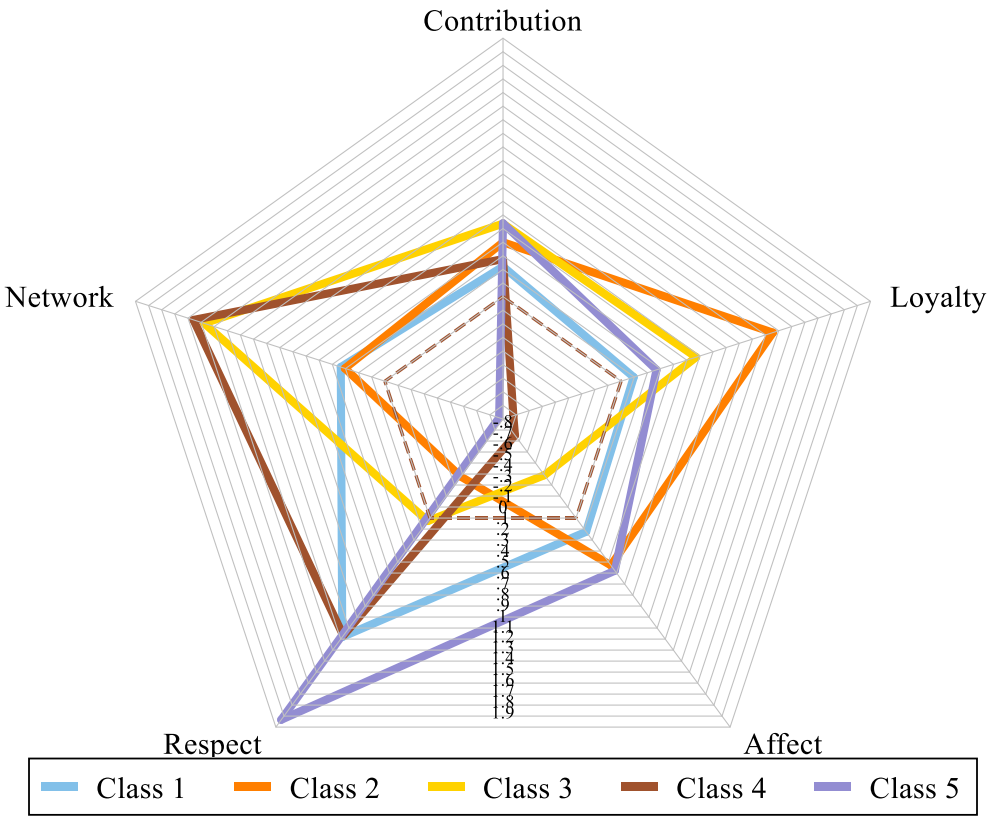

Figure 4.28. Combined radar graph of Latent Classes 1, 2, 3, 4, and 5. The length of each spoke in the graph (individual leadership quality weight) is proportional to the magnitude of the leadership effectiveness score and indicative of the relationship of the importance of each leadership quality relative to the overall judgment strategy of each latent class. For the key to variable names, see Table 4.1.

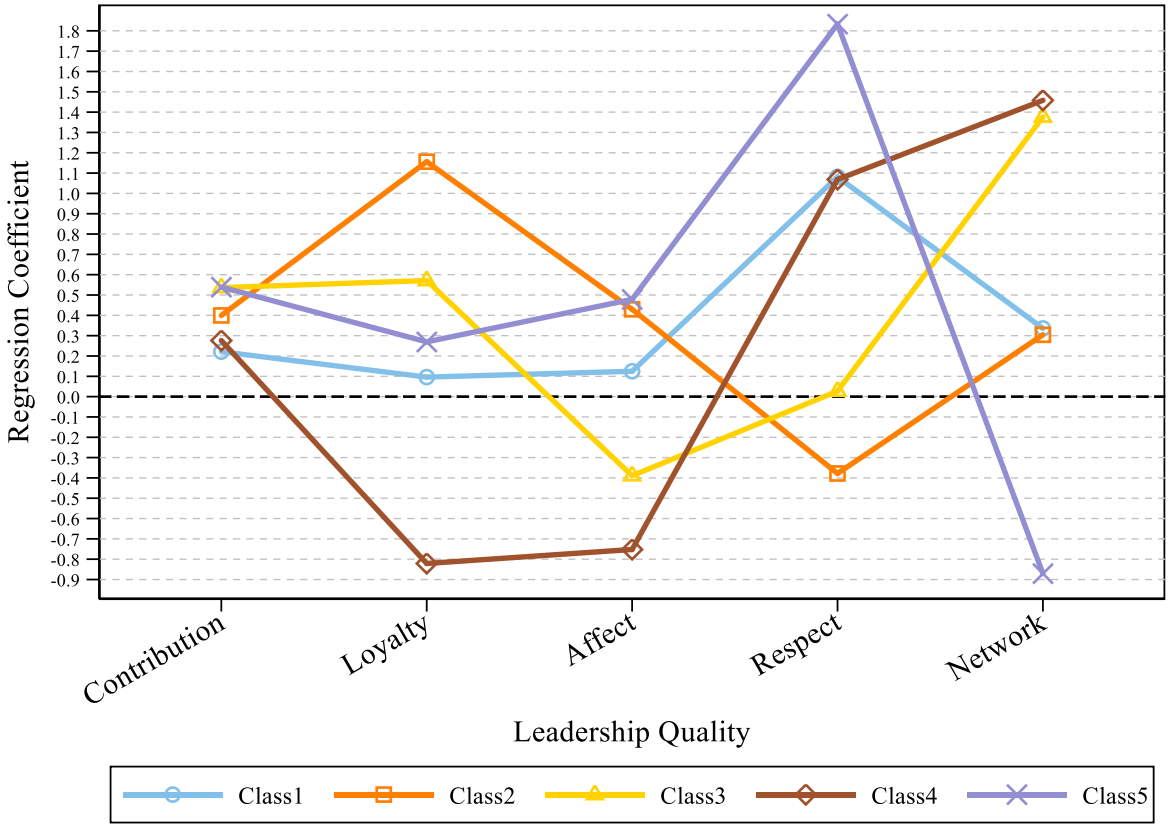

Figure 4.29. Latent Class line graph of the OLS regression coefficients for the five leadership qualities. Contribution, loyalty, affect, and professional respect are drawn from LMX theory, whereas networking is not explicitly part of that theory. For the key to variable names, see Table 4.1.

The bar graph displayed in Figure 4.30 provide another view of the effects of the five leadership qualities as reflected in the SJA OLS regression coefficients. This graph is organized, however, by latent class and provides readily comparable visual profiles of the effects of the leadership qualities within each latent class strategy. This graph is particularly useful because it highlights the contrasts between positive and negative perspectives in the individual judgment policies across the latent class strategies. Notably, only the profile of the Latent Class 1 (light blue) judgment strategy views all five leadership qualities positively. Latent Classes 1 (light blue), 2 (orange), 3 (yellow), and 5 (lavender) all have a single, dominant leadership quality that defines the given latent class strategy. In Latent Classes 5 (lavender) that dominant quality is

LMX:professional respect; in Latent Class 2 (orange), it is LMX:loyalty; and in Latent Class 3 (yellow), the dominant leadership quality is networking. Latent Class 4 (brown), however, has mirrored pairs of leadership qualities where LMX:loyalty and LMX:affect are viewed similarly as negative effects which are off-set by networking and LMX:professional respect.

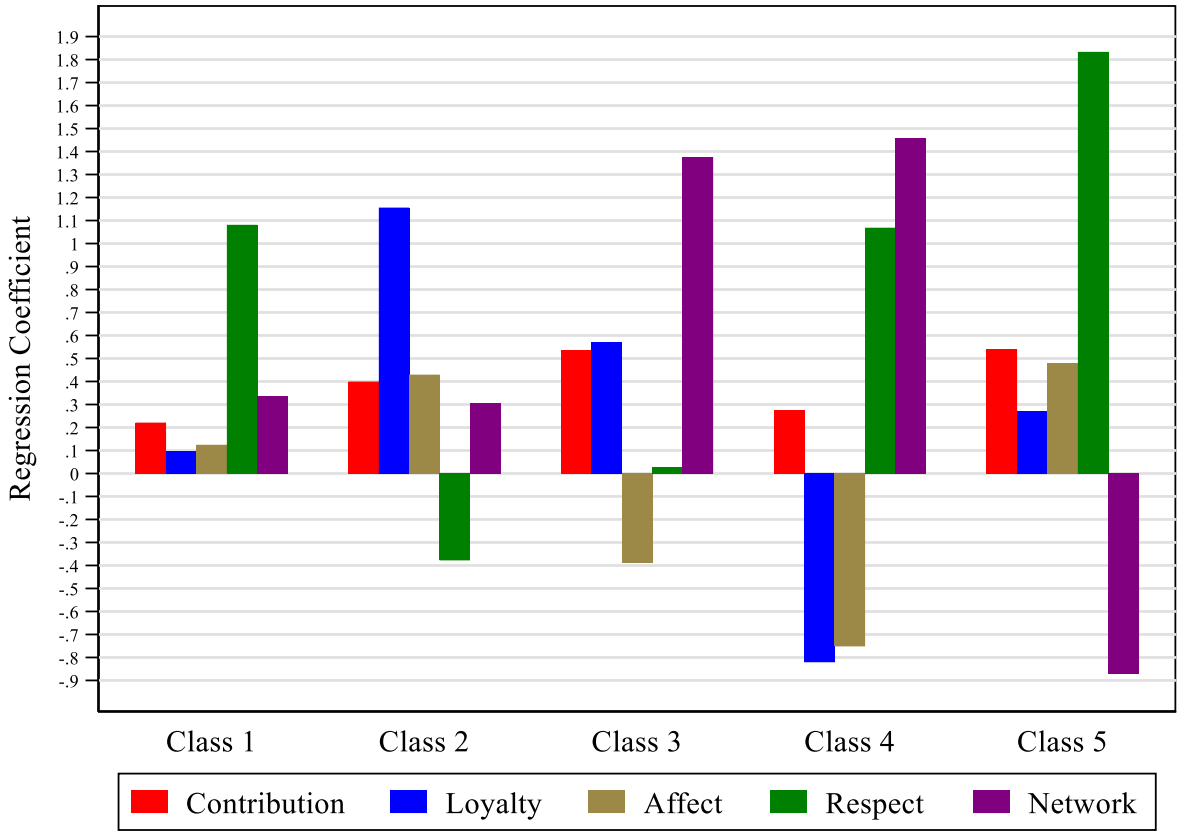

Figure 4.30. Bar graph of judgment policy profiles by latent class. For the key to variable names, see Table 4.1.

PART THREE

QUALITATIVE INSIGHTS ABOUT PREFERENCES FOR SCHOOL LEADER QUALITIES

In this third part of the chapter, I review and analyze the responses to the open-ended, narrative question from the survey. That question elicited additional comments in the

respondents' own words and provided insights useful for interpreting and finding meaning in the judgment strategies represented by the multilevel mixed effects regression model (i.e., the single rational actor model) and each of the five latent classes revealed through finite mixture modeling.

Qualitative Analysis of Insights and Comments

Four major themes emerged from the analysis of the 75 narrative responses given and reflect the quantitative data analysis themes associated with the global single rational actor model as well as each of the five latent classes. These themes represent: (a) The Complete Leader; (b) The Hollow Leader; (c) The Teachers' Leader; and (d) The Trusted Leader. Themes were identified based on clusters that emerged from word frequency and word co-occurrence patterns, following conventional practice in computer-aided content analysis.

Frequency Analysis of Key Words

Words that were deemed material to the topic and which appeared five or more times in the open-ended narrative responses were identified for analysis using KH Coder software with Key Word In Context (KWIC) concordance techniques. The 24 most frequent terms and their relative percentages were identified and are shown in Table 4.17. These results provide the empirical evidence needed to support the interpretation of word clusters offered later in this section.

Table 4.17

Word Frequencies in Open-Ended Comments

Word	Part of speech	Word frequency	%
able/competent/know/knowledge/knowledgeable	Adjective	68	14.98
teach/teacher/teachers/teaching	Noun	66	14.54
faculty/staff	Noun	57	12.56
student	Noun	33	7.27

school	Noun	32	7.05
administrator/administration	Noun	27	5.95
approachable/likeable/like/	Adjective	26	5.73
parent	Noun	18	3.96
support	Verb	17	3.74
inspire	Verb	12	2.64
classroom	Noun	11	2.42
experience	Noun	10	2.20
loyal	Adjective	9	1.98
trust	Noun	8	1.76
community	Noun	7	1.54
decision	Noun	7	1.54
listen	Verb	7	1.54
communication	Noun	6	1.32
relationship	Noun	6	1.32
respect	Noun	6	1.32
understand	Verb	6	1.32
fair	Adjective	5	1.10
professional	Adjective	5	1.10
structure	Noun	5	1.10
Total occurrences of words			454

Note. N=75 narrative responses, n = 454 total word occurrences

KWIC identified two distinct categories of frequently used words throughout the qualitative open-ended responses. Titles, roles, and stakeholder group identities form one category (viz., teacher, student, faculty, school, administration, parent, classroom, and community), and leadership qualities along with associated characteristics form the other category (viz., knowledge, likeable, inspire, respect, professional, support, loyal, trust, decision, listen, communicate, relationship, understand, and fair). Of the 24 most frequently occurring words, “knowledgeable” and its derivatives were included 68 times, accounting for almost 15% of the word occurrences. The next group (from “teach” through “administration”) identifies important relationships an effective leader must have with members and stakeholders of the school community, including “teacher,” “faculty/staff,” “student,” and “administrator.”

Multi-Dimensional Scaling Analysis of Word Co-Occurrence Frequencies

Similar to the five latent classes identified in the finite mixture modeling (FMM), the open-ended comments revealed multiple dimensions affecting teacher judgment strategies related to perceptions of leadership effectiveness. Words, specifically those identified through KWIC, appear in six distinct multi-dimensional scaling word clusters shown in Figure 4.31.

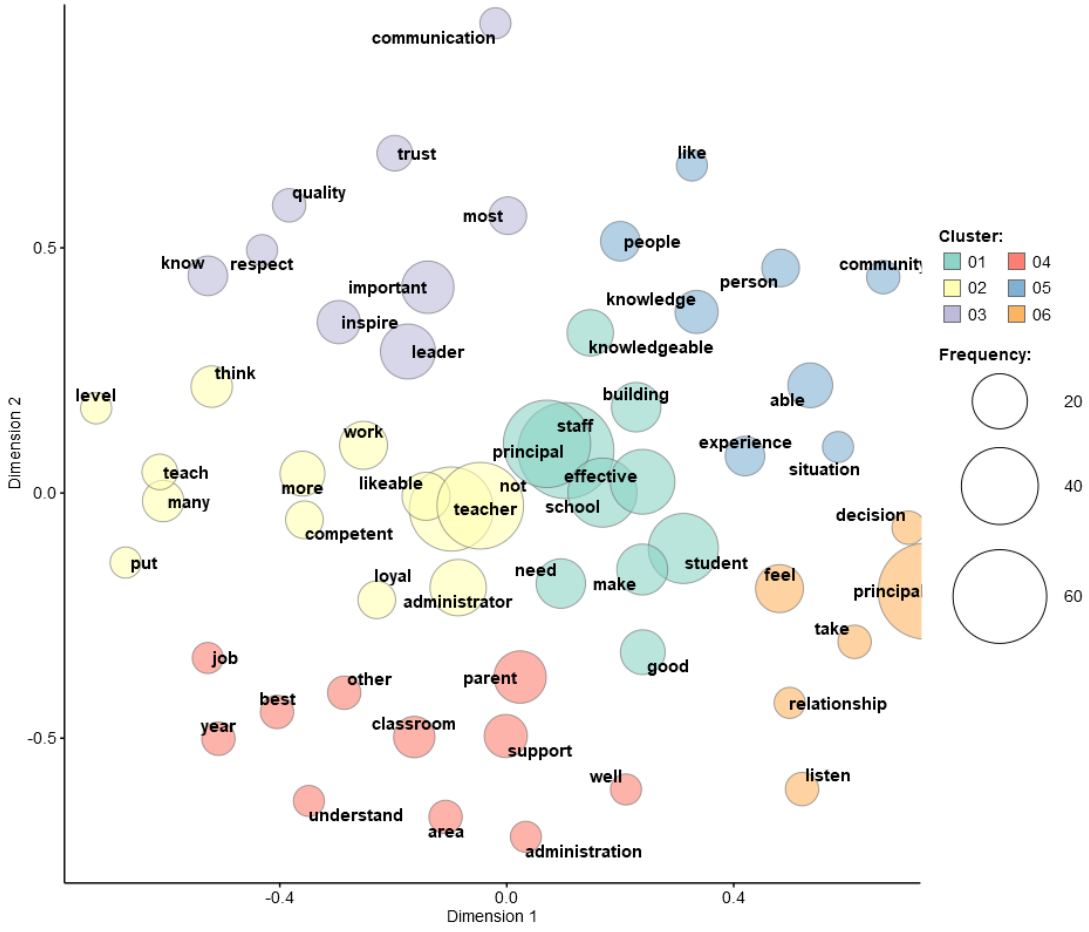

Figure 4.31. Multi-dimensional scaling map of words with minimum frequency = 6

Multi-dimensional scaling analysis produced a six-cluster bubble plot, over two dimensions, depicting word co-occurrences in terms of similarity (where similarity is operationalized by frequency of co-occurrence). K-means cluster analysis identified clusters of words found to be similar to one another based on their co-occurrence frequency. The larger

bubbles in each cluster are representative of the frequency of specific words and represent the major roles, identities, and stakeholders in the school-community (vis., “principal,” “teacher,” “administrator,” “leader,” “student,” “staff,” and “school”). Although the word “parent” appeared less frequently, it also reflects an important stakeholder group in the school community. The distances between the words in the MDS map indicate how closely tied they are to one another, whereas the size of the bubble indicates how frequently a given word appeared. It is important to note that two bubbles need not overlap in order for the words they represent to manifest relatively high similarity.

Each of the LMX leadership qualities (i.e., LMX:contribution, LMX:loyalty, LMX:affect, and LMX:professional respect) and the additional leadership quality of networking are easily located and identified in the six clusters. Cluster 1 (light blue) represents the social network of the school-community and includes all of the stakeholders and the overlapping, interrelationships that exist. It highlights the importance of the leadership quality of networking and the leader’s ability to connect and work with all constituent groups. Clusters 2 through 6 are in close proximity and surround Cluster 1 (light blue), this indicates the interrelationship and connection between the stakeholder roles and identified leadership qualities. Cluster 2 (yellow) highlights teachers’ and administrators’ proximity to the LMX:loyalty and LMX:affect (likeable) leadership qualities. Cluster 3 (lavender) connects the role of the leader with the LMX:contribution (inspire) and LMX:professional respect.

It is interesting to note the proximity of “communication” and “trust” to the entire bubble plot. These terms are found on the periphery of the clusters and at a distance from the roles identified at the centroid of both dimensions. Cluster 4 (pink) connects “administration” and “parents” with “support” and “understanding.” Cluster 5 (dark blue) highlights

LMX:professional respect with a focus on "knowledge" and "experience." Cluster 6 (orange) relates the word "principal" with the terms "decision," "relationship," and "listen." In addition to the periphery terms of "communication" and "trust" in Cluster 3 (lavender), there are several other noteworthy terms at a measurable distance from the center of the MDS map (viz., "understand," "listen," and "decision"). This distance indicates that these terms are peripheral and less central.

Co-Occurrence Network Analysis

A third approach to the textual analysis of the open-ended comments was conducted using co-occurrence analysis to reveal connections and relationships between key words that co-occur. The co-occurrence network of most frequently occurring key words is displayed in Figure 4.32.

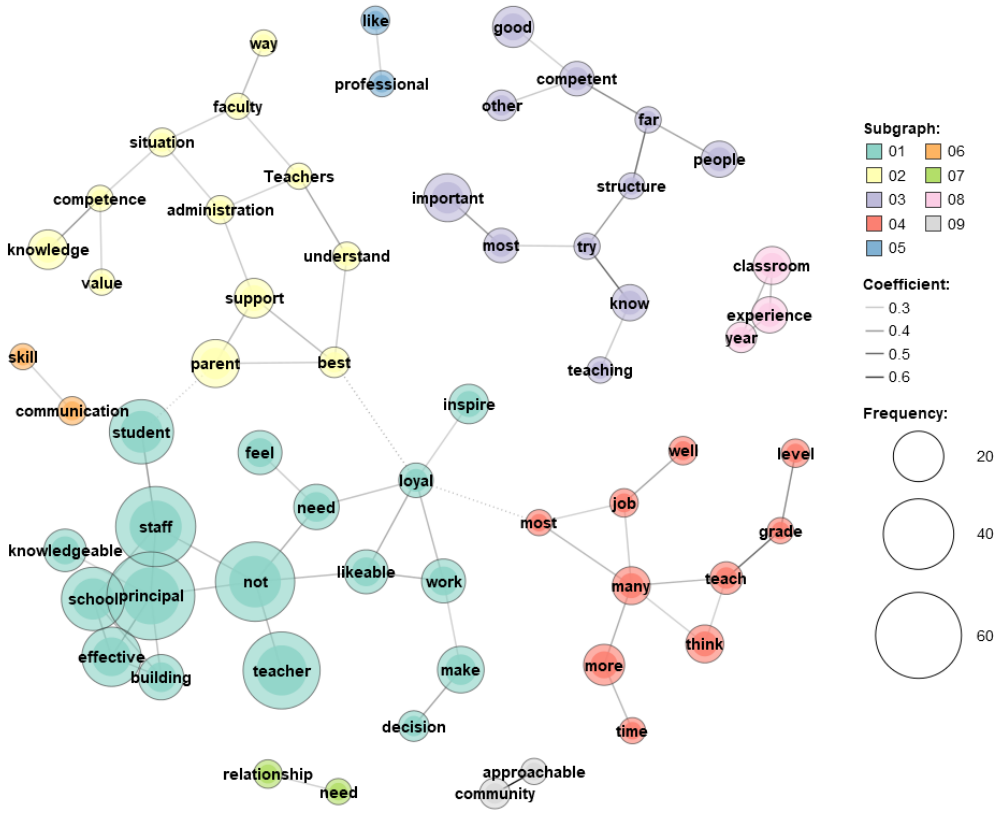

Figure 4.32. Co-occurrence network of words with minimum frequency = 6

As one participant stated in the narrative response, "The quality of a principal cannot be summed up easily." Throughout the open-ended narrative results, the components and qualities of effective leadership were often mentioned together in the same or similar responses. Co-occurrence analysis techniques, accompanied by the resulting network map, cluster connected terms that appeared together six or more times and allows for deeper insight and analysis of the qualitative data. The ties (shown as solid and dotted lines) connecting each of the bubbled terms represents the manner in which terms were directly connected and the transitive connections to other terms by association.

Cluster 1 (dark blue) contains the terms with the highest frequency percentages (cf., Table 4.17) and are represented as such with the largest bubbles. Cluster 1 includes all of the 4 LMX leadership qualities (LMX:contribution ("inspire"), LMX:loyalty, LMX:likeable, and LMX:professional respect). What is telling, and also somewhat concerning, is the frequency, relationship, connection, and proximity of the term "not." The term "not" is the center connection for the co-occurrence of all of the terms in Cluster 1, this suggests the possibility that teacher respondents may have been reflecting on deficits in their own experiences with effective leaders as well as the leadership qualities they feel are lacking in school leaders.

Synthesis of the Qualitative Analyses

The four identified qualitative response themes emerging from word and word-cluster analyses connect with the overall, global, single rational actor model, as well as with individual aspects of the five latent classes. The types of leaders reflected in these themes from the qualitative analyses may be labeled as: (a) The Complete Leader; (b) The Hollow Leader; (c) The Teachers' Leader; and (d) The Trusted Leader. Each of these perceived types that

emerged from the qualitative analysis is discussed in turn below. Individual case narrative responses are found in Appendix A.

Theme 1: The Complete Leader

The overall message from the 38 narrative responses creating *The Complete Leader* theme is that an effective leader demonstrates all of the leadership qualities included in this study. Every leadership quality is valued and important in this theme. As the level of each leadership quality increases, the level of leadership effectiveness increases. Several key terms emerged from the qualitative data. The KWIC (Table 4.17) identified "approachable" ($k = 26$), "communication" ($k = 6$), and "trust-building" ($k = 8$); with "authentic," "balanced," "compassionate," "competent," "consistent," "dedicated," "diplomatic," "empathetic," "equitable," "flexible," "honest," and "intentional" also appearing throughout the open-ended narrative responses.

Although the four major themes that emerged from the qualitative data analyses are different from the five latent classes identified through finite mixture modeling (FMM), it is instructive to identify the areas of correspondence between the themes and the latent classes. The importance of an effective leader possessing each leadership quality, as indicated by Theme 1, was also most apparent in Latent Class 1. The effective leader, first and foremost, demonstrates high levels of professional competence (LMX:professional respect) but must be well-rounded and exhibit all the other leadership qualities (LMX:contribution, LMX: loyalty, LMX:affect, and networking). Two particular responses that resonated with both Latent Class 1 and *The Complete Leader* in Theme 1 were found in Case 119 and Case 156. Case 119 wrote, "The leadership qualities are so deeply interwoven that I found it difficult to address these categories individually."

Theme 2: The Hollow Leader

The Hollow Leader theme emerged from 7 narrative responses collectively stating that an effective leader is very rarely found and that many administrators are incompetent and merely putting on a show. Key terms that emerged from the qualitative responses include "administrators" (k = 27), "likable" (k = 26), "knowledgeable" (k = 68), and "respect" (k = 6).

Theme 2 reflects elements of both Latent Class 3 and Latent Class 4. Latent Class 3 exhibits a distain for LMX:affect (likeability) but admiration for networking; and Latent Class 4 puts a positive focus on LMX:professional respect and networking but takes a negative perspective of LMX:loyalty and LMX:affect (likability). Both of these latent classes align with *The Hollow Leader* in Theme 2. Several direct quotes are worth noting as they paint a pessimistic picture regarding the likelihood of the existence of a "likeable," truly effective leader. Case 35 expressed that, "Knowledgeable and competent are most important and in most short supply. Likability is the hobgoblin of all interviews and job hiring; it gets bad people put in positions they should NOT [sic] be in." Case 2 was even more direct stating that, "Likable is just stupid. People who have the likable criterion ranked first or second probably should not be teachers."

Theme 3: The Teachers' Leader

The overall theme emerging from *The Teachers' Leader* as reflected 6 narrative responses was one that expressed that most administrators are minimally competent, but that real administrative leaders are the ones who inspire and encourage teachers to do their best. *The Teachers' Leader* theme stresses the importance of morale and loyalty. Latent Class 2 from the finite mixture modeling (FMM) echoes this perspective as LMX:loyalty was paramount in the

judgment of effective leadership with LMX:professional respect working against a leader's effectiveness score.

Case 80 opined, "In today's climate, where the government, press, and many, if not most parents are anti-teacher/anti-union, where does any kind of support come from?" Theme 3 could be described as emphasizing the importance of having a protective leader, no matter the circumstance. There is definitely a sub-theme of the negative aspect of favoritism. Several key terms that emerged included: "support" ($k = 17$) and "trust" ($k = 8$), as well as "favoritism," "protection," and "struggle." Case 145 expressed,

> If an administrator rules with fear or retribution . . . that administrator will always be known for that, and the teacher on the receiving end will be spoken of reverently amongst the faculty and staff, as if that teacher had tangled with the dragon and lived to tell the tale.

Case 151 underscored the importance to the staff of "protection." That respondent wrote, "It really does not matter what the principal brings to the position, if they are not protective to the staff they are useless."

Theme 4: The Trusted Leader

There were 24 narrative responses that reflected *The Trusted Leader* theme. In this theme, "trust" is paramount to the teachers and "liking" the leader helps to cultivate and develop trust in them. Key terms that emerged from this theme are: "fair" ($k = 5$), "inspirational" ($k = 12$), "respect" [of teachers and staff by the leader] ($k = 6$), "supportive" ($k = 17$), "trust" ($k = 8$), and "understanding" ($k = 6$). Other noteworthy terms were: "advocate," "connection," "deserve," "emotional," "equal," "friendly," "happy," "kind," "safe," "transparent," and "valued." This theme contains elements that are aligned with Latent Class 5 and Latent Class 1.

The Trusted Leader theme is aligned with Latent Class 5, which finds "trust" in the traditional LMX leadership qualities (LMX:professional respect, LMX:contribution, LMX:affect, and LMX:loyalty). Latent Class 1 takes it one step further and connects with the leadership quality of networking as reflected in *The Trusted Leader's* ability to connect with all staff and work beyond formal boundaries.

Several open-ended, narrative responses were poignant and reflective of the importance teachers place on trusting their leader. Case 74 shared, "If teachers feel and believe they are supported by administration, teachers would be much happier and more productive and the students would benefit." Case 87 put it more simply, "Happy teachers equals happy kids." Case 175 took a more ominous tone with, "If you cannot work with the staff, engendering trust and 'all in' attitudes, you are a failure to be tolerated until you move on." Case 211 was reflective in responding that, "Taking this survey makes me wish we had more (or any, really) control in shopping for an administrator. It makes me sad for what could be possible, but what we have not had in decades."

The four themes that emerged from the qualitative data analysis draw attention to the importance teachers also place on trusting their leaders and knowing that they will be protected by their leaders. These themes from the qualitative data analysis are directly aligned with the leadership qualities used to define the latent classes in the finite mixture modeling (FMM) and also considered in identifying the single rational actor model.

PART FOUR

RESPONSES TO THE RESEARCH QUESTIONS

In this final section of the chapter, I provide empirically-grounded responses to the two research questions that guided this study. As the evidence for these responses, I rely upon the

results of the single rational actor model produced by the multilevel analysis (see Table 4.1); the results of the multiple rational actors models in the form of the five latent classes produced through finite mixture modeling (see Tables 4.7 through 4.15); and the results of the qualitative data analyses (see Table 4.7, and Figures 4.31 and 4.32).

Response to the Research Question 1

The first research question focuses on identifying the distinct judgment models that emerged to describe teachers' views of the qualities of K-12 principal leadership with regard to leader-member exchange and informal networks. This study found six distinct models (i.e., the single rational actor model and the five latent class multiple rational actors models), which are aligned with four major themes from the qualitative data analysis.

The single rational actor model. The single rational actor judgment model places its highest value and measure of leadership effectiveness on the LMX:professional respect that teachers have for the experiences, knowledge, competencies, and skills of the leader. Under this broad judgment model that purports to describe the views of all teachers at a very general level of aggregation, the effective leader not only has to be scholarly and have an experienced skill set, but must also demonstrate, to relatively equal degrees, the leadership qualities of LMX:loyalty, networking, LMX:contribution, and LMX:affect.

Multiple rational actors' preferences in Latent Class 1. The judgment preferences in Latent Class 1 are distinct from the preference sets of the other latent classes in that all five leadership qualities count, positively, in the overall judgment strategy used to determine the effectiveness of school building leaders. Similar to the single rational actor judgment model, Latent Class 1 teachers expressed that all of the leadership qualities count in effective leadership, but that the leadership quality of LMX:professional respect counts even more than the others.

Multiple rational actors' preferences in Latent Class 2. The judgment preferences in Latent Class 2 are distinct in that the leadership quality of LMX:loyalty matters far more than the other four leadership qualities. Latent Class 2 feels strongly that loyalty is the key leadership quality of an effective leader. If the building leader is loyal to the teachers, regardless of all other qualities, then that leader is viewed as effective by Latent Class 2. The concept of loyalty is so important to Latent Class 2 that LMX:professional respect is actually seen as a detrimental leadership quality and perhaps even in conflict with the ability of the leader to protect and buffer the teacher from all opposing forces.

Multiple rational actors' preferences in Latent Class 3. The judgment preferences in Latent Class 3 embrace the leader who has a network savvy awareness and focuses on the talents and skills of the staff to highlight and orchestrate an environment of recognition and opportunity for the teachers. Such a leader does not hesitate to work beyond formal organizational structures and boundaries. Interestingly, Latent Class 3 teachers are not concerned about the professional credentials of the leader and do not believe it is important that they like or admire the leader. Rather, they prefer to work for a leader who demonstrates loyalty to them.

Multiple rational actors' preferences in Latent Class 4. The judgment strategy in Latent Class 4 highlights preferences for business-like leaders. Latent Class 4 teachers reward the experienced, credentialed leader (LMX:professional respect) who has an awareness of the strengths, skills, and expertise of the faculty and staff. Latent Class 4 has no need for personalizing the work relationship they have with their school leader; in fact, these teachers consider the leadership qualities related to connecting with staff on a personal level as detrimental to the leader's effectiveness. Latent Class 4 clearly has a judgment strategy based on a leader being able to do their job and having the professional skill set to do the job very well.

Multiple rational actors' preferences in Latent Class 5. Latent Class 5 holds a traditional perspective regarding leadership effectiveness. Teachers in this class believe that the effective leader is one who follows the formal structure, rules, and boundaries of the organization, and who establishes traditional levels of personal connections with the teachers and staff. This judgment strategy rewards the traditional leader who is competent and works within the system.

Leadership themes aligned with the leadership models. As discussed above, four leadership themes emerged from the qualitative data analysis. These themes describe an alternative taxonomy which is distinct from but aligned with the single rational actor model and the five multiple rational actors models reflected in the latent classes. This taxonomy suggests four types of school leader: (a) The Complete Leader; (b) The Hollow Leader; (c) The Teachers' Leader; and (d) The Trusted Leader.

Response to Research Question 2

The second research question focuses on the extent to which selected characteristics of teachers are associated with their judgment models. The selected characteristics (i.e., covariates) considered in this study include: (a) years of teaching experience; (b) teaching high school Grades 9-12; and (c) aspiring to an administrative position within the next 5 years. The mixed-effects multilevel model (Table 4.1) confirmed that the most important statistically significant predictor of preferences for a given leadership quality in the single rational actor model is having a doctorate. Holding a doctoral degree has a relatively small, but highly statistically significant, positive effect on the value teachers place on the leadership quality of networking (b = .17, p = .009). Two other statistically significant effects of the covariates were found for the single rational actor model. Holding a doctorate reduces the value placed on the loyalty (LMX:loyal)

of the leader toward teachers (b = -.12, p = .044). Teachers who teach in Grades 9-12 place a slightly higher value on the experience, knowledge, competencies, and skills reflected in the quality of LMX:professional respect (b = .01, p = .019).

With regard to the covariate effects in the latent class models, the study found only two statistically significant effects on the membership classifications and those effects existed in only two latent classes (see Table 4.5). First, high school-level teachers (i.e., Grades 9-12) have odds that are 35% lower of being in Latent Class 4 than Latent Class 1 (b = -.43, p = .04). Second, teachers who aspire to a leadership role in the next five years have odds of being in Latent Class 5 that are 38% than being in Latent Class 1 (b = -.48, p = .017).

Chapter Summary

This chapter has presented the results of the social judgment analyses (SJA) conducted at the individual level (see Appendix A), at the global, single rational-actor level, and for five distinct latent classes reflecting multiple rational actors. These results have underscored the reality that no single view or model can adequately describe teachers' preferences related to the effectiveness of school leaders. Rather, these results have offered five distinct models, each of which provides insights about the values teachers seek in their leaders.

It is not surprising that the covariates did not play a greater role in explaining or predicting membership in the five latent classes. Indeed, this finding was anticipated and foreshadowed in the fundamental premise of the study. That premise assumed that teachers' preferences regarding the effectiveness of school leaders could not be explained by a simple set of known covariates and would, rather, reflect unobserved heterogeneity in revealing a set of latent classes that would become apparent almost exclusively in the effectiveness scores they assigned to the hypothetical leaders they were asked to judge. The most important finding in

response to Research Question 2 is that we know and can describe both the global model of the teacher as a single rational actor and the five sub-types that were revealed through finite mixture modeling (FMM). Explaining the causes of those differing preference sets will have to wait for additional research that can build on these initial findings.

In the next chapter I offer the conclusions and implications I draw from the empirical evidence provided in this study. I then proffer several recommendations for research, theory, policy, organization, and practice related to school leaders and leadership.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This study sought to identify and to illuminate the judgment preferences that K-12 public school teachers hold pertaining to the leadership qualities of school principals. School building principals are the formal building leaders charged with establishing and maintaining a school environment that first and foremost ensures the academic success and emotional well-being of all students. Concurrently, school leaders must address the needs and concerns of the parents and community, while overseeing the daily operations of the building and supervising and leading a faculty and staff of professionals.

Although the formal role of the building principal spans the boundaries of each of these stakeholder groups, the role of the teacher also spans, on the forefront of each boundary, these same groups. As a direct result of these overlapping relationships with the school's key stakeholders, teachers emerge as members of the formal internal school organization, the informal social network of the school, and the school's external environment, as discussed in Chapter I (see Figure 1.2). The heteronomous organizational structure (Scott & Davis, 2016) of public schools provides teachers with tremendous insight, as a direct result of their position power, for assessing and judging the qualities reflective of effective school building leadership.

My goal in conducting this research was to give agency to teachers' perspectives and insights; identifying the judgment models teachers hold regarding the leadership qualities of effective school principals. It is my hope that the findings of my study will further inform and guide current policy, practice, and future research in the area of effective leaders and leadership in school buildings.

In this fifth chapter, I take license to explore and re-envision the nature of effective school principal leadership drawing on the perspectives offered in theories related to leader-member exchange and social networks. The view-points, analysis, and conclusions that I present in this chapter are my own and, understandably, others may or may not come to the same conclusions. My interpretation offers but one possibility for consideration, realizing that other plausible evidence-based conclusions may be drawn based on alternative interpretations of the empirical findings that emerged in this research. The commitment I offer to the reader is that I have been careful to ground the conclusions and implications presented in this chapter in the empirical evidence from my study and to ensure that these inferences are consistent with and limited to the evidence.

This chapter draws upon the background and context from Chapter I; the examination of previous literature and research reviewed in Chapter II; the methodology and experimental design described in Chapter III; and the empirical results of the analyses described in Chapter IV. All of the previous chapters have been written objectively, restricted to factual data, and are void of my personal views. Chapter V, however, presents a shift in my perspective to draw conclusions from the evidence as informed by my professional experience and expertise as a high school and middle school teacher, elementary and secondary school building leader, and central office leader with responsibilities in curriculum, instruction, and human resources administration. Melding prior theory and research and the empirical evidence produced in this study with my subjective experience and expertise, I now offer the conclusions and implications I have drawn from this research about the nature of effective school leaders and leadership.

Chapter V begins by presenting the paradoxes that exist, influence, and shape the process of school leadership and actions of school leaders. Insight gleaned from the history of

organization theory, focusing particularly on open and closed systems (Katz & Khan, 1966; Parsons, 1960; Thompson, 1967/2008), research and theory on heteronomous professional organizations (Scott, 1982; Scott & Davis, 2016), leadership theory with a focus particularly on leader-member exchanges (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Greguras & Ford, 2006; Liden & Maslyn, 1998; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011; Schriesheim, Castro, & Cogliser, 1999), and social network theory (Blau & Scott, 2003; Borgatti, Everett, & Johnson, 2013; Burt, 1995; Carter et al., 2015; Daly, 2015; Kadushin, 2012; Kilduff & Krackhardt, 2008; Scott, 2005, 2013; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994; Yang, Keller, & Zheng, 2017), provided a foundation for this apperception. This groundwork serves to support and promote the specific conclusions I have drawn and present in this chapter.

Chapter V then transitions to reflections about the implications of re-envisioning school leadership as an emergent property, in a state of dynamic equilibrium, resulting from the reactive synergy between building leaders and the largest cadre of building members (i.e., teachers). The models of teacher perspectives revealed here should not be considered as competing points of view about school leadership. Rather, they should be understood as complementary, alternative perspectives on the phenomena of school leaders and leadership. This final chapter closes with the recommendations I offer for reconciling the paradoxes of school leadership and for additional research and theory on school leadership that acknowledges the importance of recognizing school organizations as both formal and informal networks.

Ten Paradoxes of School Leadership

Simon (1946) challenged the established administrative and organizational principles of his time and argued that they represented a series of conflicting "proverbs." As he cautioned, for every accepted proverb of organization and administration, there exists another logical and credible proverb that is diametrically opposed but is equally plausible and sound. For example, he observed that the universally accepted organizational principle of unity of command (Taylor, 1911) is incompatible with the equally accepted and fundamental principles of specialization and departmentalization (Gulick & Urwick, 1937; Taylor, 1911; Weber, 1925). In Simon's view, it was implausible that, at any level of an organization, a single leader could command a sufficient degree of the specialized knowledge required to make efficient and effective decisions. Thus, he noted that the principle of unity of command stands in direct contrast to the equally accepted and fundamental principle of specialization in organizations. Likewise, Simon (1946) challenged the compatibility of the accepted principle of span of control with the principle of unity of command and noted that the organization theories of his day were replete with unreconciled proverbs of administration. Simon described these incompatible and unreconciled proverbs as "deceptive simplicities" (p. 54), which had gained wide acceptance because they presented oversimplified solutions to complex problems. They did not, however, contain guidance for resolving their conflicts and were, therefore, deemed by Simon to be of little true value.

The competing, incompatible, and unresolved proverbs of administration create dilemmas for administration and leadership that Simon (1946, p. 61) labeled as an "impasse." In the practice of leadership, ultimately one principle must be chosen and the other must be either ignored or subordinated. As he wrote,

> Mutually incompatible advantages must be balanced against each other . . . . Much administrative analysis proceeds by selecting a single criterion and applying it to an

> administrative situation to reach a recommendation; while the fact that equally valid, but contradictory, criteria exist which could be applied with equal reason, but with a different result, is conveniently ignored. A valid approach to the study of administration requires that all relevant diagnostic criteria be identified; that each administrative situation be analyzed in terms of the entire set of criteria; and that research be instituted to determine how weights can be assigned to the several criteria when they are, as they usually will be, mutually incompatible. (p. 62)

The ability of the leader to make the "right" choice in these circumstances affects the degree to which the organization's goals are attained and determines the leader's level of effectiveness. Unfortunately, almost three quarters of a century after Simon (1946) complained that administrators had no definitive or empirical guidance for resolving conflicting administrative proverbs and organizational principles, leaders today are still left to reconcile a host of such conflicting principles.

The types of conflicting administrative principles that Simon (1946) introduced as "proverbs" appeared repeatedly in the results of my study of factors that influence the effectiveness of school leaders and leadership today. The conflicts that this study found in the existing literature and among the views of effective leadership held by the study's participants revealed a pattern of paradoxes for school leadership. The resolution of these paradoxes of school leadership is the critical element in the effectiveness of school leadership and the success of school principals. In the following, I discuss ten paradoxes for school leadership that emerged from the findings of this study. In a subsequent section, I then offer my view for a new vision of school leadership that acknowledges these paradoxes and offers some preliminary approaches to reconciling them.

Paradox 1: Open Systems vs. Closed Systems

Thompson (1967) noted the conflict between the view of organizations as closed systems (Fayol, 1917; Merton, 1957; Taylor, 1911; Weber, 1925), independent and insulated from their larger environments, and the view of organizations as open systems (Katz & Khan, 1966; Parsons, 1960), subject to disruptions and influences from their environments. School organizations must operate in the reality and with a dependence upon an uncertain open-system environment. The uncertainty of the variables and influences from this open system creates a lack of security and concern on the part of the teachers. Consistent with Thompson (1967), the first leadership paradox identified in this study is the need to view the school organization as an artificially closed system operating within a larger social, economic, and political environment that can disrupt the efficient and effective operation of the school. The challenge for the school leader is to work within and recognize the larger open system environment, while simultaneously leading the closed system core operations of the school.

Paradox 2: Heteronomy vs. Hierarchy

For more than a century schools have been organized and operated as formal, hierarchically-structured, bureaucratic organizations (Pulliam & Van Patten, 2013) in the tradition of the factory-model of Taylor (1911) and Weber's (1925) concept of bureaucracy. Schools are more realistically viewed, however, as heteronomous organizations (cf., Scott & Davis, 2016), in which leaders interact with professional staff, and share power (as distinct from authority)—similar to nature of leadership in law firms and other professional organizations in which the members are highly-educated and hold the expertise critical to the organizations' missions). The challenge created by this second paradox is further complicated by the natural emergence of informal social networks that are particularly prevalent and powerful within

professional organizations, like schools, whose members are highly-educated and whose expertise is crucial to the mission of organization. The professional knowledge, training, and skills of members which comprise the informal social networks of the organization are often in conflict when constrained to the boundaries and limits of the formal structure and rules of a hierarchical bureaucratic organizational structure.

Paradox 3: Members vs. Followers

The third paradox of school leadership is closely related to the second, but the paradox of members vs. followers is so critical that it deserves individual mention here. As emphasized repeatedly in this dissertation, leader-member exchange theory is grounded in the fundamental assumption that organizations are made up of leaders and members rather than leaders and followers (Dansereau, et. al., 1975; Dienesch & Liden, 1986; Liden & Maslyn, 1998; Graen & Cashman, 1975; Greguras & Ford, 2006). In the day-to-day realities of schools, principals and other school leaders are enmeshed in a hierarchical, highly-bureaucratic system that can easily lead them to view their authority as power and to view teachers and staff as workers or followers who can be expected to comply with the demands placed upon them. Specific teacher-duty assignments, the need to carry out required mandates, prescribed curriculum and instruction are but a few of the many examples that draw school leaders to assume an authoritative role over their teachers as followers rather than as members. The challenge presented by this paradox in school leadership is, then, to break out of the bureaucratic mindset that characterizes the leadership in a hierarchy and to view teachers as members who make contributions rather than as followers who meet demands.

Paradox 4: Informal Social Networks vs. Formal Structure

Another critical paradox that emerged from the literature review and the empirical evidence in this study is that of informal social networks vs. formal organizational structures. Although the literature on social networks has been well established for several decades (Blau & Scott, 2003; Borgatti, Everett, & Johnson, 2013; Burt, 1995; Carter et al., 2015; Daly, 2015; Kadushin, 2012; Kilduff & Krackhardt, 2008; Prell, 2012; Scott, 2005, 2013; Scott & Davis, 2016; Valente, 2010; Wasserman & Faust, 1994; Yang, Keller, & Zheng, 2017), the important role and value of informal networks in schools is just beginning to be acknowledged (Daly, 2015; Deal, 2008). In the routine operations of schools as complex organizations, the need to maintain order and coordinate action engenders a natural inclination to rely upon straightforward rules, official roles, and the formal structure of hierarchical authority. Indeed, leaders often rely on these formal elements of school organization to insulate themselves from the messy realities of school life. These less straightforward realities involve naturally emerging, informal, social networks where rules are supplanted by norms; official and relatively stable roles are replaced by dynamic and often temporary positions of influence by virtue of relationships in fluid social networks; and formal authority is replaced by respect and social power. The challenge of this fourth paradox is for the effective school leader to work in both spheres—the formal structures with their rules and roles, and the informal networks with norms and dynamic informal roles.

Paradox 5: Specialization vs. Command [Leader Knowledge and Expertise vs. Teacher Knowledge and Expertise]

As discussed in the introduction above, long ago Simon (1946) noted the organizational paradox that exists in the contrast of specialization vs. command. In the context of school leadership, this paradox is seen in the potential conflict between command—operationalized as reliance on the managerial knowledge and skills of the school leader—and specialization—

operationalized as reliance upon the specialized curricular and instructional expertise of teachers. The hierarchical structures and bureaucratic systems that characterize schools would tend to resolve this potential conflict by giving precedence to command over specialization. Further, because most school leaders have had at least some classroom teaching experience, they may feel that they do not need to call upon others for advice on curricular or instructional policies or practices in their schools. It would not be surprising, then, for school leaders to rely primarily on a trust in their own skills and knowledge as granted by their official titles rather than on the specialized expertise and experience of their teachers and staff. As Simon (1946) cautioned, however,

> If unity of command . . . is observed, the decisions of a person at any point in the administrative hierarchy are subject to influence through only one channel of authority; and if his decisions are of a kind that require expertise in more than one field of knowledge, then advisory and informational services must be relied upon to supply those premises which lie in a field not recognized by the mode of specialization in the organization. (p. 55)

In the context of school leadership, even if a principal has had experience in classroom teaching or curriculum development, it is unlikely that that principal has sufficient knowledge of all the diverse subjects, student issues, and other areas that are needed to be an effective leader. The challenge of this fifth paradox is to acknowledge that command and specialization cannot be allowed to be inimical to one another. Rather, each must be viewed as relying upon and complementing the other.

Paradox 6: Professional Respect Based on Tacit Knowledge vs. Professional Respect Based on Explicit Knowledge

The sixth paradox of school leadership (professional respect based on tacit vs. explicit knowledge) emerged in the contrast of the judgment preferences for professional respect (reflecting the knowledge and competence of the leader). Among the latent classes in this study, three gave great positive weight to the leadership quality of professional respect while another had a substantially negative view of this quality and one gave it little to no consideration. Initially, these contrasting judgments about the importance of professional respect in the effectiveness of leadership were surprising and difficult to understand. After reflection and a review of the narrative insights in the study, however, the reason for these differences became apparent. In my interpretation, the differences in views about the value of professional respect emanated from two different ways of viewing knowledge.

The Hungarian-British polymath and knowledge theorist Michael Polanyi (1966, 2012) distinguished two types of knowledge, explicit knowledge and tacit knowledge. Explicit knowledge is that which is concrete and easily described and transferred to others. Typically codified in words, symbols, and signs, it can be shared with clarity. Explicit knowledge is often referenced as learned knowledge and is sometimes described as book knowledge. Tacit knowledge, on the other hand, is knowledge of which one is not consciously aware and which, therefore, cannot be readily described or transferred from one person to another. Examples of tacit knowledge may be seen in the ability to ride a bike, drive a car, or play a musical instrument. The tacit nature of such knowledge only becomes apparent when one needs to share it with another, as in the case of teaching someone how to ride a bike, drive a car, or play a musical instrument. In the context of this study tacit knowledge can also be seen to describe those leadership abilities and skills that are held intuitively and which evolve silently over years of experience. It is the tacit knowledge of a leader rather than the explicit knowledge that equips

the leader to navigate in unknown territory or to know when to apply the rules and when they should be bent. I believe the most plausible explanation for the negative value assigned to professional respect by one of the latent classes reflects a view of the leader's explicit knowledge while those latent classes which assigned a high positive value to professional respect focused on the leader's demonstration of tacit knowledge. That is, three latent classes interpreted professional respect as "know how" and one interpreted it as "know what." From the narrative insights it was apparent that knowing how (i.e., tacit knowledge) is highly valued, whereas knowing what (i.e., explicit knowledge) is associated with less effective leaders. The challenge in this sixth paradox is for the school principal to exhibit tacit knowledge without flaunting explicit knowledge or giving explicit knowledge priority over tacit knowledge. The safety, security, and confidence teachers have for the school leader are directly tied to the daily actions and choices the leader makes. The tacit knowledge a leader demonstrates determines the measure of professional respect and contribution the teachers and staff will have in the leader's ability to act and react to any situation. This instills a level of physical and emotional confidence and security on the part of the teacher members that cannot be developed though explicit knowledge alone.

Paradox 7: Professional Respect vs. Authority

This paradox (i.e., professional respect based on service vs. compliance/servitude based on authority) has been the subject of discussion in the leadership literature. In contrast to theories of leadership that focus on the leader's ability to obtain the compliance of followers, servant leadership promotes leaders who operate in service to the members (Northouse, 2016). Servant leadership also encourages care, humility, empathy, and compassion (Caldwell, 2011; Gilligan, 1993; Greenleaf, 1970; Krames, 2015). The intent of servant leadership is to have

those who are served become stronger and more autonomous in their role and as a result, the overall organization becomes stronger (Northouse, 2016). The challenge inherent in this seventh paradox of school leadership is to reconcile the alternative goals of serving the members of the organization vs. obtaining their compliance and servitude.

Paradox 8: Character vs. Likability

The contrast of character vs. likability, which is the essence of the eighth paradox of school leadership, juxtaposes the school leader's character and compass with the personality and friendliness of the leader. Bennis (1989, p. 140) described the character of the effective leader as comprising four deep characteristics: vision, inspiration, empathy, and trustworthiness. On the other hand, likability (or affect in the language of leader-member exchange theory) refers to the friendliness or personality of the leader. In contrast to the character of the leader, the likeability of the leader can be superficial, promising nothing in terms of the competence, loyalty, or trust that can be expected from the leader. These two leadership qualities present a paradox in that it is often difficult to remain well-liked when the leader must make and explain unpopular but necessary decisions in the interest of the organization. The levels of professional respect, networking, loyalty, and even affect are all called into question and analyzed in the determination of a leader's character. The measure of character is often said to be reflective of the balance of doing what is right vs. what is easy. In the short run, it may be relatively easy and alluring for a leader to focus on personality and being liked within the organization, but this strategy cannot be sustained when difficult decisions are inevitably encountered. In the long run, the effective school leader is a leader who manifests a strong moral character, focuses on the good of the organization and its overall membership over any personal goal or the self-interest of any individual organizational members. The leader who exudes character is, therefore,

professionally respected within both the formal organizational structure and the social network. The challenge of the eighth paradox for the school leader is to be able to put aside the vanity of always being personally likeable and to earn the respect, loyalty, and contributions of the organization's members by being competent, loyal, and trustworthy.

Paradox 9: Trust vs. Loyalty

The ninth paradox (trust vs. loyalty) of school leadership contrasts organizational interests and global rationality with self-interest and local rationality. Liden and Maslyn (1998) defined trust as the "degree of genuine concern for the best interest of the other members of the dyad as reflected in supportive behavior and honesty" (p. 49). Trust, then, reflects the belief and confidence of the organization's members in the global rationality and consistency of the leader in making decisions and taking actions which are in the best interest of the overall organization and its membership. By contrast, loyalty reflects the self-interested desires by organizational members and expectations of localized rationality in which the members' self-interests are given priority by the leader, even at the expense of the best interests of the organization. It may be tempting, as evident in the discussion of the eighth paradox above, for the school leader to trade local rationality and individual loyalty for likability. Such behavior is, however, inconsistent with the development of trust between the leader and the organization's members and cannot be effective in the long term. The challenge of this ninth paradox is to earn the trust of the organization's members even when that requires decisions which are not in the self-interest of specific members.

Paradox 10: Transformational Leadership vs. Transactional Leadership

The final paradox (transformational leadership vs. transactional leadership) of school leadership identified in this study goes a dichotomy at the heart of the literature on organizational

leadership. That literature had presented the choice between transformational leadership and transactional leadership as a dichotomy, and many major scholars have tended to extol the qualities of transformational leadership (Avolio, 1999; Avolio, Bass & Riggio, 2006; Bass, & Jung, 1990; Avolio, Walumbwa, & Weber, 2009; Bass, 1985, 1990; Bono & Anderson, 2005; Bono & Judge, 2004; Burns, 1978; Caldwell, Dixon, Floyd, Chaudoin, Post, & Cheokas, 2012; Covy, 2004; Graen, 2004; Hauserman & Stick, 2013; Howell & Hall-Merenda, 1999; Judge, Bono, Ilies, & Gerhardt, 2002; Kuhnert & Lewis, 1987; Marks & Printy, 2003; Northouse, 2016; Rost, 1992; Turner, Barling, Epitropaki, Butcher, & Milner, 2002; Wang, Law, Hackett, Wang, & Chen, 2005; Winston & Patterson, 2006, Yukl, 2012). A smaller cadre of influential leadership scholars has focused on transactional leadership as reflected in leader-member exchange (LMX) theory (Dansereau, Graen, & Haga, 1975; Graen, 2004; Graen & Graen, 2006; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhi-Bien, 1995; Liden & Graen, 1980; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011).

In transactional leadership, as exemplified in leader-member exchanges, organizational members condition their contributions on explicit quid pro quo transactions. In transformational leadership, on the other hand, the members of the organization contribute their services based upon a general belief and trust in the leader without requiring an explicit contractual agreement or transaction. The pathway to transformational leadership is through successful transactions (i.e. contracts with explicit promises) that the membership sees are in their best interest and in the best interest of the organization. At its heart, transformational leadership is fundamentally about trust, transforming the leaders and the followers as they engage in implicit, unspoken, understandings and expectations (cf., Bass, 1990b; Bono & Judge, 2004; Caldwell et al., 2011;

Northouse, 2016; Yukl, 2012). The transformational leader cultivates a safe and secure environment of innovation, risk-taking, professional growth, intrinsically aligning with follower needs for contribution, support, and empowerment, while simultaneously reducing the uncertainty of the external environment (Bass & Riggio, 2006). The transformation process occurs as both leaders and members engage in personal and professional interactions that influence their independent and collective conduct, behaviors, and aspirations.

In contrast to transformational leadership, the transactional leadership model embraces loyalty to one's own interest and professional growth, as decisions are made with a local rational perspective weighing and calculating the odds for personal gain in the decisions and choices made. The urgency of task-based accomplishment often necessitates the need for transactional leadership. This form of leader-member exchange accomplishes short-term goals effectively, yet it is only as strong as each leader-members' motivation and perception of benefits to be gained from the mutual exchange.

The contrast presented in this final paradox of school leadership is actually a false dichotomy in that transformational leadership is built upon trust created through transactional leadership. It is also the case that even under conditions of transformational leadership, transactional leadership is ongoing often with members who have not developed a transformational relationship with the leader or during organizational or individual crisis when trust is strained. The challenge presented in this final paradox is not a choice between transactional and transformational leadership, but rather an acknowledgment that they are not mutually exclusive and that both may be necessary in specific circumstances.

Addressing the Paradoxes of School Leadership

In his discussion of the proverbs of administration, Simon (1946) argued that, even if administration could not be deemed a science in his day, it should be at least recognized as an art and, "Even an art cannot be founded on proverbs" (p.67). In the same vein, the ten paradoxes of school leadership that emerged from this study must not be left unaddressed. The following attempts to reconcile or resolve each of the paradoxes of school leadership and offers recommendations for increasing the effectiveness of school leadership.

Reconciling Paradox 1 (Open Systems vs. Closed Systems)

In reconciling the first paradox (i.e., schools as open systems vs. closed systems), the effective school leader must buffer (cf., Thompson, 1967) and protect the core operations of the school and its teaching staff from potentially distracting or disrupting external influences from its larger environment. The effective school principal must create for teachers, students, and staff the artificial reality and lived experience of a safe, secure internal, closed system while boundary-spanning and fending off in the potential threats from the school's open-system reality. To maintain this artificial closed system, the effective school principal must demonstrate loyalty to the staff (as emphasized in leader-member exchange theory), must display a sufficient knowledge and understanding of external factors, and must reflect the ability to work within and across both the formal and informal social networks within the school. By doing so, the effective school leader will be able to minimize the disorder (i.e., entropy) that accompanies exposure to the open-system environment (cf., Katz & Kahn, 1966). As leader-member exchange theory (Dansereau, Graen, & Haga, 1975; Graen, 2004; Graen & Graen, 2006; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Graen & Uhi-Bien, 1995; Liden & Graen, 1980; Martin, Epitropaki, Geoff, & Topakas, 2010; Naidoo, Scherbaum, Goldstein, & Graen, 2011) suggests, the resulting sense of safety and security experienced by the

faculty and staff will encourage them to contribute to the success of the organization's mission and goals.

Reconciling Paradox 2 (Heteronomy vs. Hierarchy)

The leadership challenge presented by the second paradox (i.e., heteronomy vs. hierarchy) of school leadership is to strike an appropriate balance between the professional freedom and autocracy of teachers with the need for hierarchical structure. These seemingly contradictory conditions are both necessary. The professional freedom and autonomy that characterize the heteronomous organization are necessary for the organization to be able to benefit from the specialized expertise of teachers, while hierarchical structure is need to assure efficient and effective command and control and to maintain order. Leader-member exchange theory would suggest that this leadership paradox can be reconciled when (a) school leaders view their teachers and staff as members rather than followers, (b) when school leaders are perceived to be loyal to their faculty and staff, and (c) when school leaders are trusted and viewed as deserving of the contributions of their teachers and staff. Network theory would suggest that the critical roles teachers play in the informal networks within schools and the concomitant power that networks imbue upon them warrant the respect and attention of school leaders. Therefore, network theory would also recommend that school principals view their teachers and staff as professional members within a heteronomous organization rather than as workers or followers in a factory-model hierarchy. The findings in this study confirmed the importance of loyalty (from the leader to the member) and professional respect (from the member to the leader) in encouraging contributions from teachers to their leaders and organizations and in earning the trust that is essential to teachers' willingness to make such contributions.

The ability of the leader to effectively balance these two distinctly different teacher personas, and to do so with loyalty, affect, and an understanding of the social network, earns the leader professional respect "credits" to equalize the two different teacher-role identities. This balance is similar to and reflective of the paradox of heteronomy versus hierarchy, effective leadership supporting professional expression and freedom within the confines of bureaucratic structure and obligations.

Reconciling Paradox 3 (Members vs. Followers)

Reconciling the conflicting elements of the third paradox (i.e., viewing teachers as members rather than followers) of school leadership requires that effective school principals adopt a change in mindset. Despite the hierarchical and bureaucratic environment in which school leaders function, they need to discipline their thinking to consciously view teachers as members and colleagues with expertise different from their own. Principals, of course, need to exercise authority but only for maintaining order, coordinating the work of the school's teachers and staff, and for resolving conflicts. They should otherwise, however, take advantage of the specialized expertise and experience of their teachers and staff to ensure that teachers and staff are able to contribute fully to the achievement of the organization's shared mission and goals.

Reconciling Paradox 4 (Informal Social Networks vs. Formal Structure)

Just as reconciling the third paradox requires a change in mindset, reconciling the fourth paradox (i.e., informal social networks vs. formal organizational structures) requires a change in vision. Effective school leaders need to train their vision to look beyond the readily visible formal structures and systems of roles and rules to see the less visible informal networks and the norms and influencers reflected in them. Effective building leaders must ensure that rules and policies are followed and that the chain of command is observed. To be most effective, however,

school principals must also recognize that these formal rules, roles, and structures can often hinder the achievement of their organizational goals when those goals are seen to conflict with the values and norms of the school's informal networks. As the leadership literature has attested, and as the findings of the current study support, the most effective school leaders are those who understand that leadership is situational and that effective school leadership requires working not only within but also beyond and outside the boundaries of formal organizational structures. Tapping into the connections and relationships between teachers, recognizing and having professional respect for the staff, displaying loyalty towards those whose contribution sets the tone and morale of the school culture are all vital towards strengthening and building upon the organizational foundation.

Reconciling Paradox 5 (Specialization vs. Command)

The fifth paradox (i.e., specialization vs. command) is perhaps the most difficult to reconcile for school leaders whose administrative perspectives have been shaped in a world that values hierarchy and command-and-control. School leaders are not only caught up in the hierarchical structure and command systems of their own school organizations, but they have seen that virtually all large, complex organizations (e.g., the military, the Catholic Church, large corporations) have similar structures and control systems. The belief in the value of hierarchy is a cultural artifact that influences views of school leadership almost as an element of faith. The effective school leader must be able and willing, however, to suspend this belief and the cultural influences supporting the precedence of command to know when to give precedence to command and also when to give priority to the specialized expertise of faculty and staff. As leader-member exchange theory asserts and as the empirical evidence in this study supports, teachers as organizational members will only be able and willing to contribute to the leader and

organization when they feel their work is valued, they have trust in the leader, and the leader provides them an opportunity to contribute.

Reconciling Paradox 6 (Professional Respect Based on Tacit Knowledge vs. Professional Respect Based on Explicit Knowledge)

The sixth paradox (professional respect based on tacit knowledge vs. explicit knowledge) is less a matter of choice than of balancing. The effective school principal, of course, must possess a substantial degree of explicit knowledge and skills. However, the effectiveness of that principal is based to a far greater extent on the principal's tacit knowledge and skill and ability to strike an appropriate balance between knowing what (i.e., explicit knowledge) and knowing how (i.e., tacit knowledge). The most effective school leaders do not emphasize their credentials or explicit knowledge but exhibit the quiet competence that exemplifies a high degree of tacit knowledge and skills. As the evidence in this study clearly indicates, teachers give great professional respect to highly knowledgeable school principals, but they do not value and may even resent principals who focus on explicit knowledge.

Reconciling Paradox 7 (Professional Respect vs. Authority)

The effective school principal is a leader who resolves the seventh paradox (i.e., professional respect based on service vs. compliance/servitude based on authority) in favor of servant leadership. As reflected in the empirical results of this study, teachers will gladly make contributions to the school leader whom they view as loyal to them, and in whom they can place their trust and confidence. The principal as servant leader will model for the teachers and staff the value of service to the organization and its teacher members. In so doing, the principal will achieve a deeper level of organizational achievement than is possible when the leader demands compliance and servitude.

Reconciling Paradox 8 (Character vs. Likability)

Reconciling the competing elements of the eighth paradox (i.e., character vs. likeability) of school leadership should be relatively simple and straightforward. This should simply be a matter of doing what is right instead of what is easy, and sacrificing one's personal vanity for one's commitment to the larger good of the school and its organizational members. The effective school principal must be prepared to make this choice even at the expense of being unliked. It is ultimately better, however, to be admired for unpopular but wise and just decisions than to be known as a popular but ineffective school principal.

Reconciling Paradox 9 (Trust vs. Loyalty)

The penultimate paradox of school leadership (i.e., trust vs. loyalty) demands courage and character in school principals. Effective principals must have the moral courage and personal commitment to the larger good of the overall school organization and its membership to sacrifice their belief in the principals' loyalty in making decisions and taking actions that contravene the self-interests of individual teachers. Trustworthiness is a hallmark of effective leadership (Bennis, 1969).

Reconciling Paradox 10 (Transformational Leadership vs. Transactional Leadership)

The final paradox of school leadership (i.e., transformational leadership vs. transactional leadership) does not require reconciliation and cannot be resolved. The effective school principal must find ways to exercise both transactional and transformative leadership as circumstances and relationships warrant. Such a principal will recognize the need that some organizational members have for explicit transactional agreements and will build upon those leader-member exchanges to create the trust that is essential to transformational leadership. That leader will not adopt the illusion of being solely transformational and will participate in leader-

member exchanges and explicit transactions when they are in the best interest of the school organization and its members.

Implications for Theory, Research, and Practice

The findings of this study offer important implications for studying, understanding, and exercising school leadership today. With regard to leadership theory, the results support the tenets of leader-member exchange (LMX) theory and endorse the incorporation of network theory into LMX theory as initiated in the 1990s. They challenge the notion in leadership theory that transformational leadership and transactional leadership present a dichotomy of leadership approaches and suggest that these perspectives coexist and are situationally determined. This study further identified ten paradoxes in school leadership that can inform our understanding not only of leadership in schools but our understanding of the elements of effective leadership more generally.

This study's results also present implications for the conduct of future research in leadership. The research design and results of this study challenge the single rational actor assumption in leadership research. They also demonstrate the value of latent class analysis and finite mixture modeling in revealing the unobserved heterogeneity in views of leadership styles and approaches.

Finally, this study has suggested that the practice of school leadership is fraught with paradoxes for which no clear method of resolution has previously been prescribed. In offering recommendations for resolving or reconciling these paradoxes, I hope this study has advanced the practice of school leadership and provided a basis for further exploration and discussion.

Some Closing Thoughts

This study presents an important caution that one should not assume that there is one single perspective on the qualities necessary for a school leader to be perceived as effective. Rather, the findings clearly indicate that all five factors considered in this social judgment experiment are important to the effectiveness of the leader—sometimes positively and at other times negatively. The determinants of the success of school leadership vary from school to school and leader to leader, making it impossible to offer a single, "one size fits all" description of the qualities of an effective school leader. To turn an old phrase this study concludes that, "Leadership effectiveness is truly in the eye of the beholder."

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APPENDIX A

INDIVIDUAL CASE STUDIES

Table A1.1

Case 1 SJA Quadratic Regression Results

Predictor	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.76	1.30	0.59	.563	-1.91	3.42
contribution2	-0.08	0.22	-0.38	.705	-0.53	0.36
loyal	-1.85	1.39	-1.33	.194	-4.69	1.00
loyal2	0.37	0.22	1.67	.108	-0.09	0.84
affect	1.58	1.29	1.23	.231	-1.07	4.22
affect2	-0.31	0.22	-1.42	.166	-0.75	0.14
respect	2.04	1.25	1.63	.115	-0.53	4.62
respect2	-0.11	0.21	-0.51	.614	-0.53	0.32
network	-0.52	1.34	-0.39	.702	-3.28	2.24
network2	0.10	0.22	0.44	.666	-0.35	0.54

Note. $F_{(10, 26)} = 25.07$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A1.2

Case 1 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.23	0.24	0.96	.346	0.11
loyal	0.43	0.26	1.67	.105	0.20
affect	-0.22	0.24	-0.89	.382	-0.10
respect	1.36	0.24	5.79	.000	0.65
network	0.09	0.26	0.33	.740	0.04

Note. $F_{(5, 31)} = 50.10$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 1 Observed Judgment Policy of School Building Leader Effectiveness

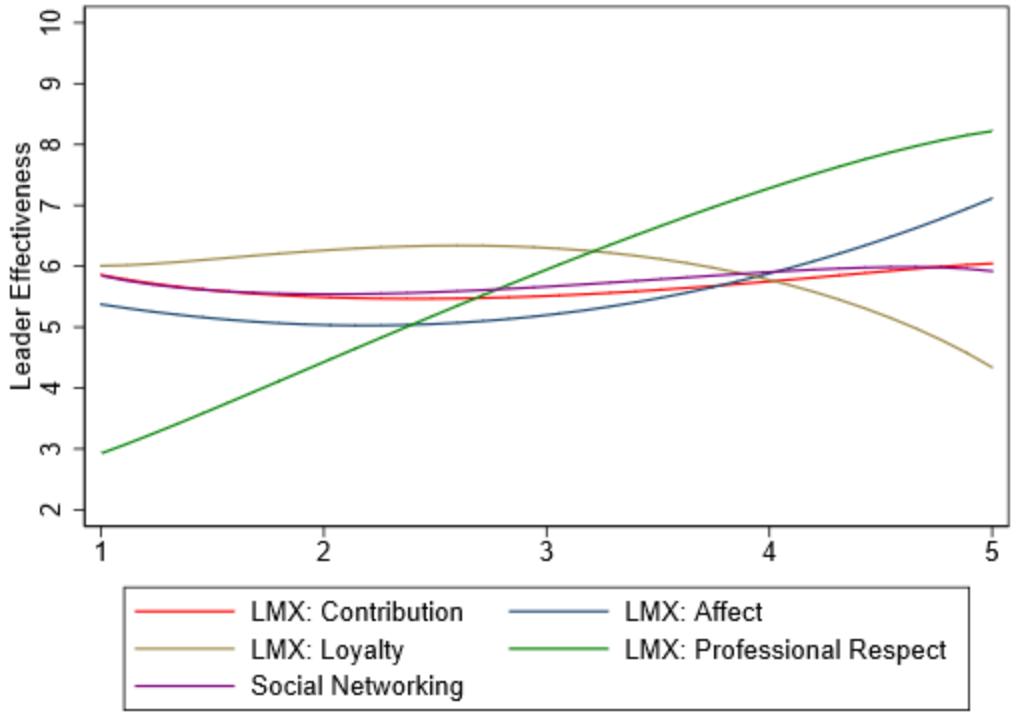


Figure A1.1. Judgment policy by leadership quality for Case 1 based on observed leader-effectiveness scores.

Case 1 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

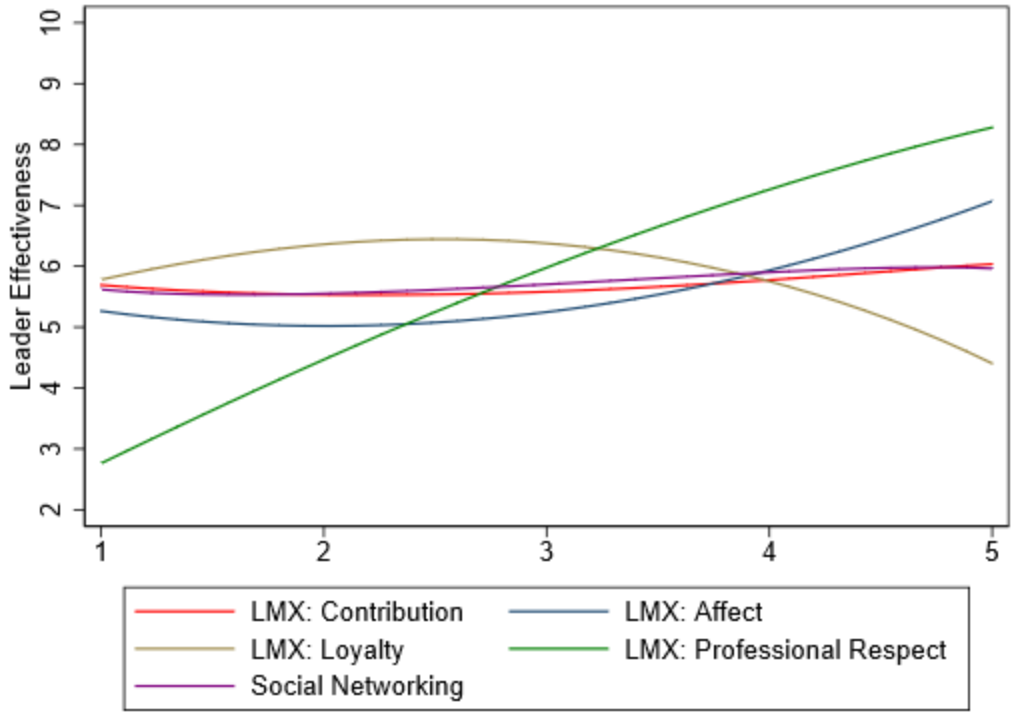


Figure A1.2. Judgment policy by leadership quality for Case 1 based on predicted leader-effectiveness scores from quadric regression.

Table A2.1

Case 2 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.23	1.30	0.17	.863	-2.45	2.91
contribution2	-0.08	0.22	-0.36	.725	-0.52	0.37
loyal	-1.18	1.39	-0.85	.404	-4.04	1.68
loyal2	0.23	0.23	1.01	.321	-0.24	0.69
affect	0.92	1.29	0.71	.484	-1.74	3.57
affect2	-0.16	0.22	-0.73	.470	-0.61	0.29
respect	1.19	1.26	0.95	.353	-1.40	3.77
respect2	-0.05	0.21	-0.22	.829	-0.47	0.38
network	0.40	1.35	0.29	.771	-2.38	3.17
network2	-0.04	0.22	-0.19	.848	-0.49	0.41

Note. $F_{(10, 26)} = 9.81$ ($p < .001$), $R^2 = .79$, Adjusted $R^2 = .71$

Table A2.2

Case 2 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.21	0.23	-0.91	.368	-0.12
loyal	0.24	0.24	0.99	.330	0.14
affect	0.03	0.23	0.12	.903	0.02
respect	0.93	0.22	4.16	.000	0.55
network	0.19	0.25	0.75	.459	0.10

Note. $F_{(5, 31)} = 21.85$ ($p < .001$), $R2 = .77$, Adjusted $R2 = .74$

Case 2 Observed Judgment Policy of School Building Leader Effectiveness

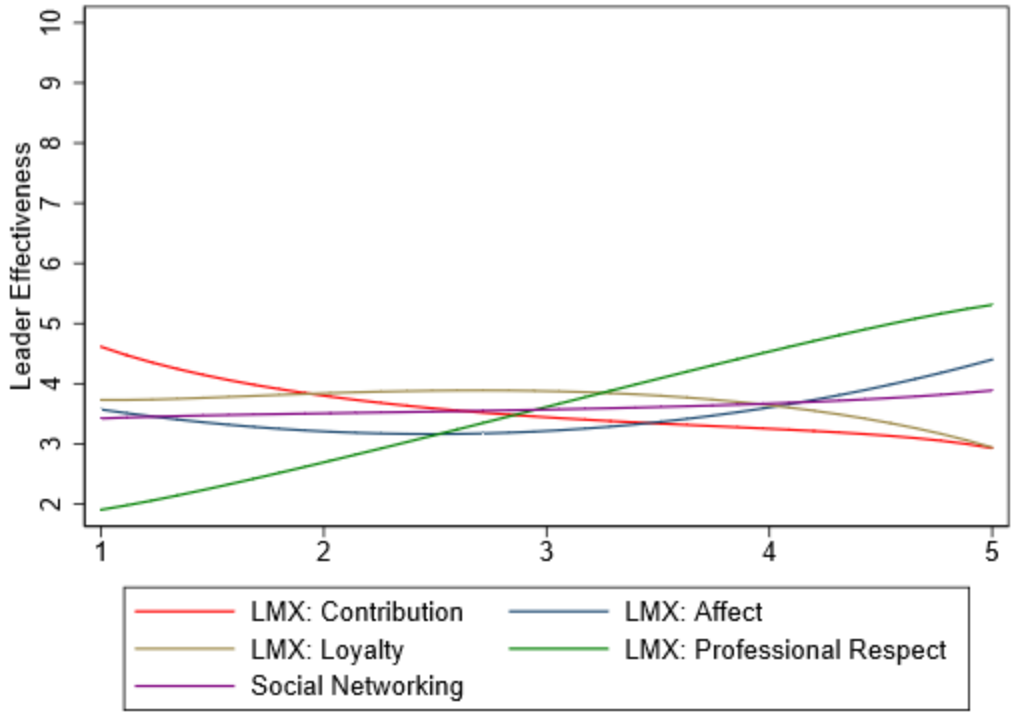


Figure A2.1. Judgment policy by leadership quality for Case 2 based on observed leader-effectiveness scores.

Case 2 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

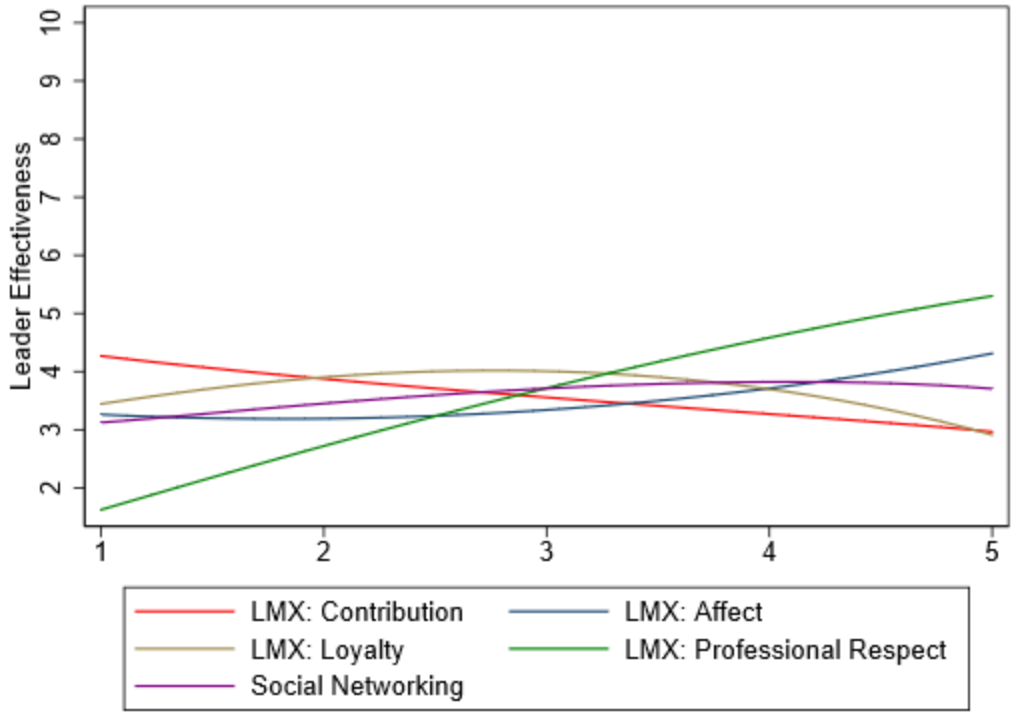


Figure A2.2. Judgment policy by leadership quality for Case 2 based on predicted leader-effectiveness scores from quadric regression.

Table A3.1

Case 3 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.11	0.91	0.12	.905	-1.76	1.98
contribution2	0.00	0.15	0.03	.978	-0.31	0.32
loyal	-1.11	0.97	-1.14	.264	-3.10	0.89
loyal2	0.20	0.16	1.27	.217	-0.12	0.52
affect	-0.03	0.90	-0.03	.978	-1.88	1.83
affect2	-0.01	0.15	-0.05	.964	-0.32	0.30
respect	2.11	0.88	2.40	.024	0.30	3.91
respect2	-0.08	0.15	-0.58	.565	-0.38	0.21
network	0.24	0.94	0.26	.799	-1.69	2.18
network2	0.00	0.15	-0.02	.980	-0.32	0.31

Note. $F_{(10, 26)} = 43.09$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A3.2

Case 3 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.09	0.16	0.54	.591	0.05
loyal	0.07	0.17	0.38	.705	0.03
affect	-0.11	0.16	-0.65	.524	-0.06
respect	1.51	0.16	9.54	.000	0.80
network	0.17	0.18	0.95	.351	0.08

Note. $F_{(5, 31)} = 94.14$ ($p < .001$), $R^2 = .934$, Adjusted $R^2 = .93$

Case 3 Observed Judgment Policy of School Building Leader Effectiveness

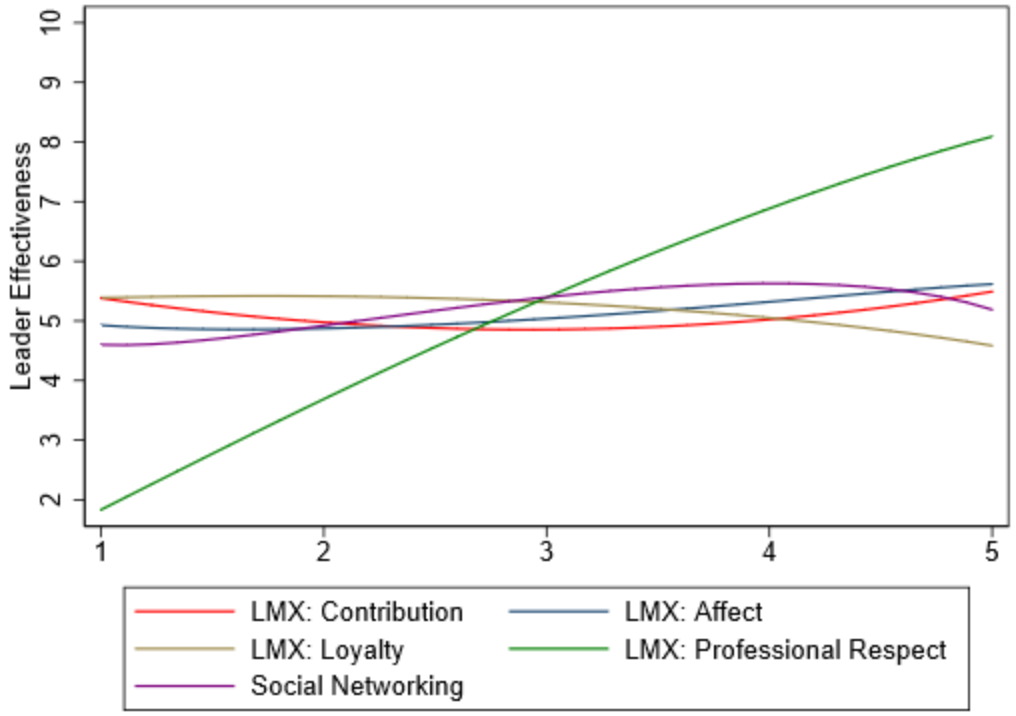


Figure A3.1. Judgment policy by leadership quality for Case 3 based on observed leader-effectiveness scores.

Case 3 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

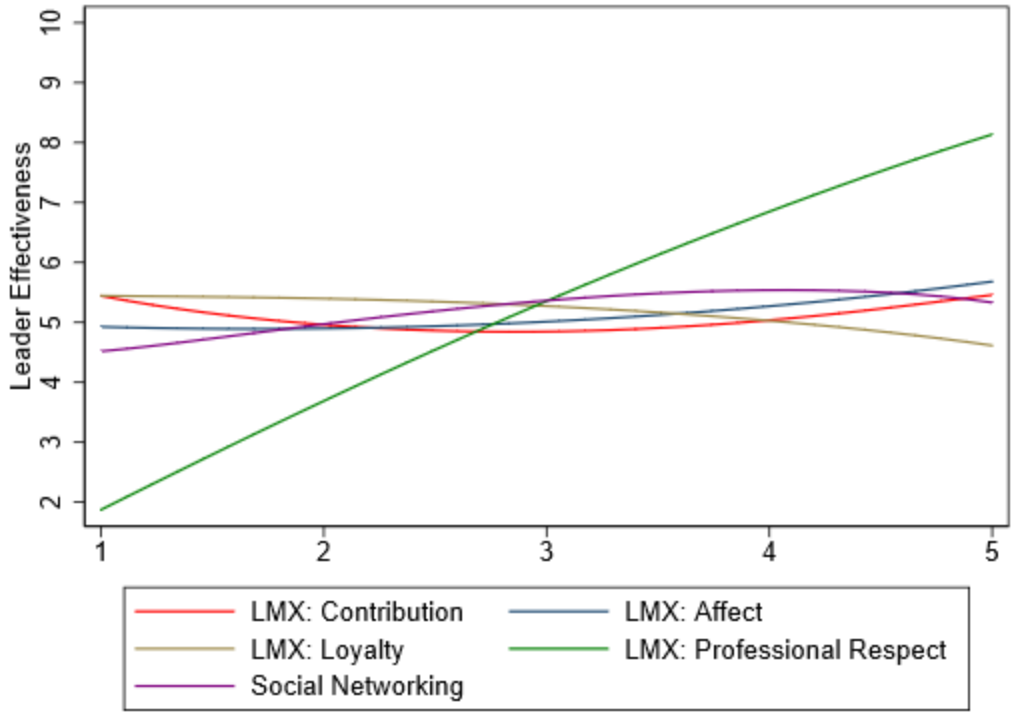


Figure A3.2. Judgment policy by leadership quality for Case 3 based on predicted leader-effectiveness scores from quadric regression.

Table A4.1

Case 4 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.23	1.05	0.22	.829	-1.92	2.38
contribution2	0.03	0.17	0.16	.877	-0.33	0.39
loyal	-1.79	1.12	-1.60	.122	-4.09	0.51
loyal2	0.32	0.18	1.74	.093	-0.06	0.69
affect	1.41	1.04	1.35	.187	-0.73	3.54
affect2	-0.22	0.17	-1.23	.228	-0.57	0.14
respect	1.33	1.01	1.31	.200	-0.75	3.41
respect2	-0.11	0.17	-0.67	.509	-0.46	0.23
network	0.88	1.08	0.81	.424	-1.35	3.11
network2	-0.03	0.18	-0.17	.864	-0.39	0.33

Note. $F_{(10, 26)} = 38.59$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A4.2

Case 4 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.19	1.94	.062	0.25
loyal	0.14	0.21	0.67	.507	0.09
affect	0.15	0.20	0.75	.458	0.10
respect	0.63	0.19	3.33	.002	0.42
network	0.70	0.21	3.35	.002	0.43

Note. $F_{(5, 31)} = 78.43$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 4 Observed Judgment Policy of School Building Leader Effectiveness

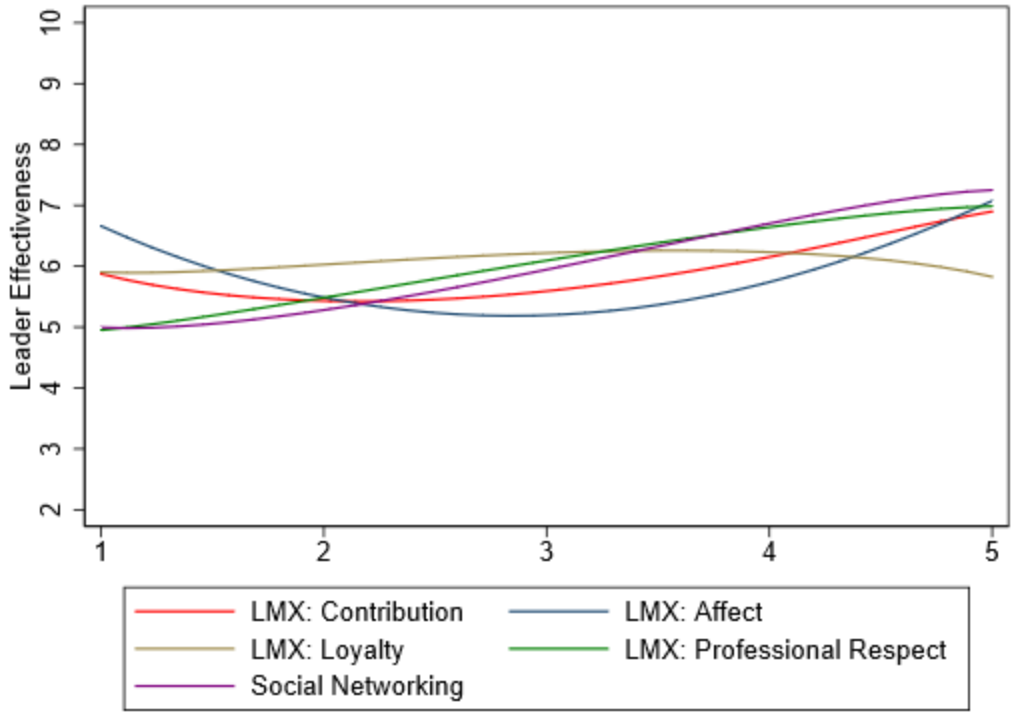


Figure A4.1. Judgment policy by leadership quality for Case 4 based on observed leader-effectiveness scores.

Case 4 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

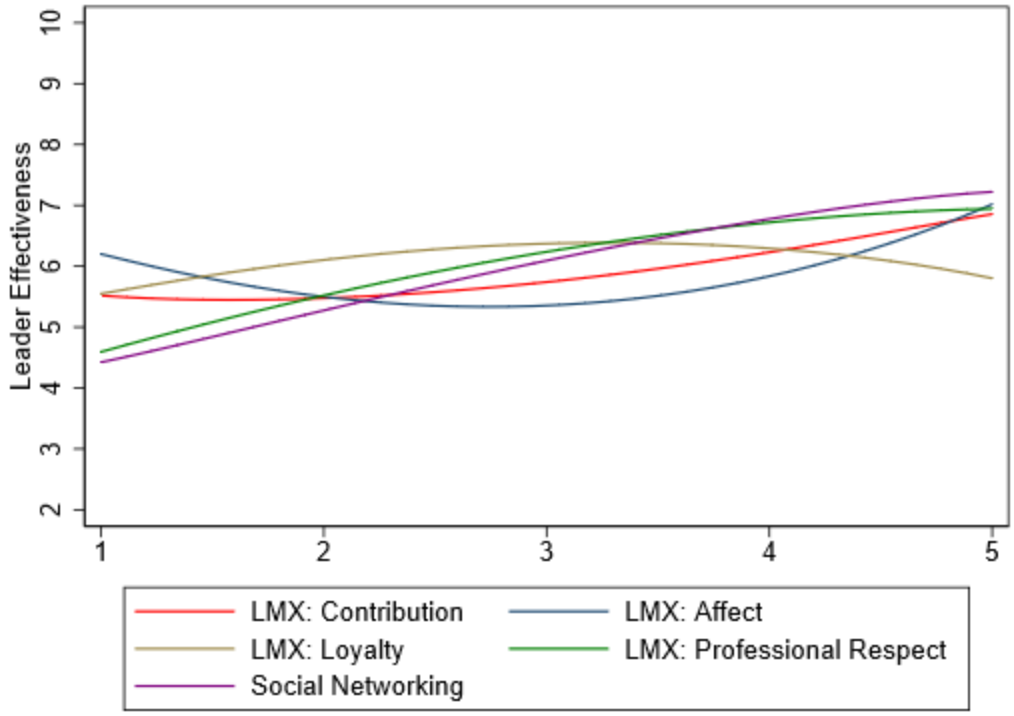


Figure A4.2. Judgment policy by leadership quality for Case 4 based on predicted leader-effectiveness scores from quadric regression.

Table A5.1

Case 5 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.81	0.77	1.05	.304	-0.78	2.40
contribution2	-0.10	0.13	-0.77	.449	-0.36	0.17
loyal	-2.62	0.83	-3.17	.004	-4.31	-0.92
loyal2	0.44	0.13	3.28	.003	0.16	0.72
affect	0.32	0.77	0.42	.679	-1.25	1.89
affect2	-0.03	0.13	-0.22	.825	-0.29	0.24
respect	0.66	0.75	0.88	.387	-0.88	2.19
respect2	-0.03	0.12	-0.27	.787	-0.29	0.22
network	2.47	0.80	3.09	.005	0.83	4.12
network2	-0.27	0.13	-2.05	.051	-0.53	0.00

Note. $F_{(10, 26)} = 52.84$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Table A5.2

Case 5 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.24	0.16	1.50	.143	0.17
loyal	0.07	0.17	0.38	.705	0.05
affect	0.17	0.16	1.02	.316	0.12
respect	0.40	0.16	2.53	.017	0.28
network	0.83	0.17	4.76	.000	0.54

Note. $F_{(5, 31)} = 83.15$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 5 Observed Judgment Policy of School Building Leader Effectiveness

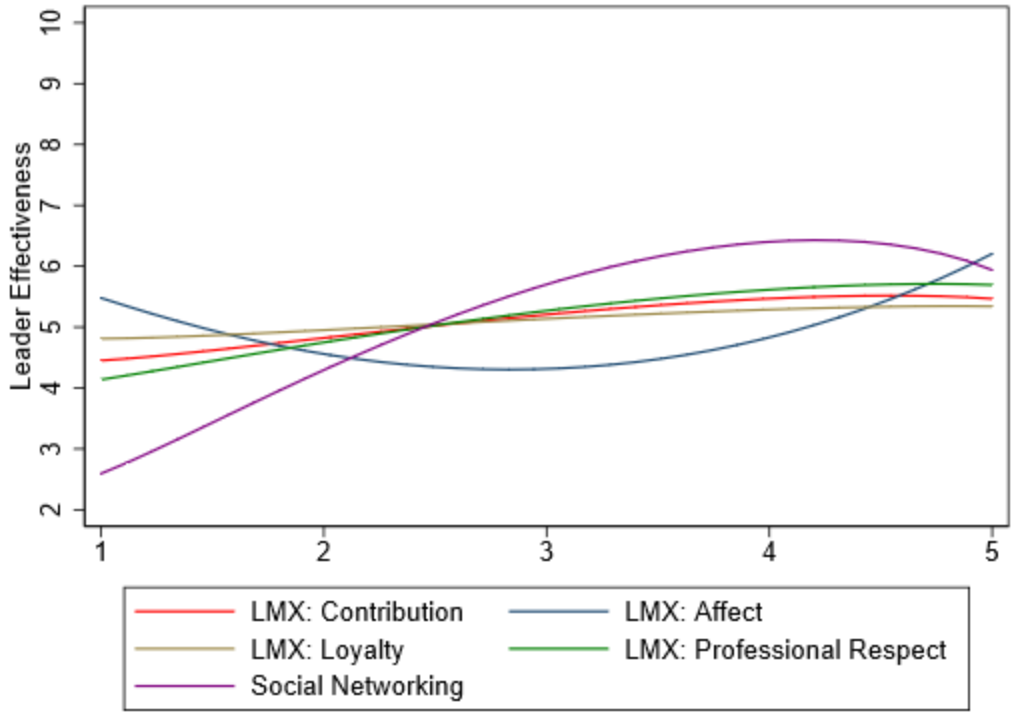


Figure A5.1. Judgment policy by leadership quality for Case 3 based on observed leader-effectiveness scores.

Case 5 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

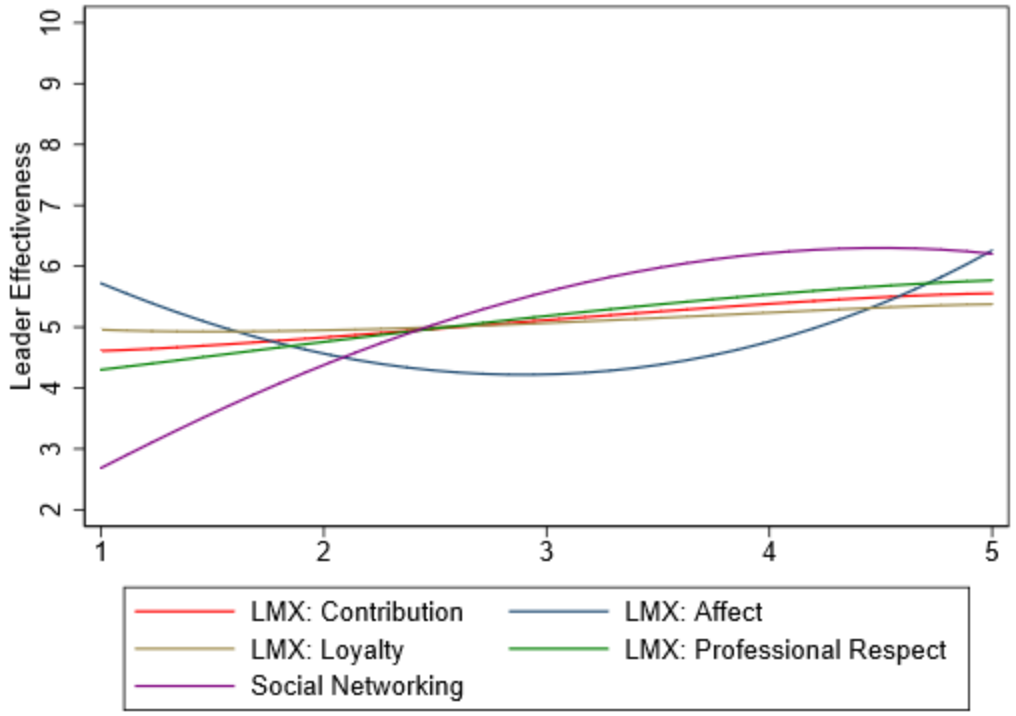


Figure A5.2. Judgment policy by leadership quality for Case 5 based on predicted leader-effectiveness scores from quadric regression.

Table A6.1

Case 6 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.05	0.73	0.07	.948	-1.46	1.55
contribution2	0.02	0.12	0.17	.864	-0.23	0.27
loyal	-0.41	0.78	-0.52	.606	-2.02	1.20
loyal2	0.06	0.13	0.44	.664	-0.21	0.32
affect	1.10	0.73	1.52	.141	-0.39	2.59
affect2	-0.17	0.12	-1.42	.168	-0.42	0.08
respect	0.87	0.71	1.23	.232	-0.59	2.32
respect2	0.01	0.12	0.11	.916	-0.23	0.25
network	1.10	0.76	1.45	.160	-0.46	2.65
network2	-0.13	0.12	-1.04	.310	-0.38	0.13

Note. $F_{(10, 26)} = 73.63$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A6.2

Case 6 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.14	1.89	.069	0.20
loyal	0.01	0.14	0.08	.939	0.01
affect	0.17	0.14	1.24	.226	0.13
respect	1.06	0.13	8.00	.000	0.84
network	0.42	0.15	2.83	.008	0.30

Note. $F_{(5, 31)} = 149.41$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 6 Observed Judgment Policy of School Building Leader Effectiveness

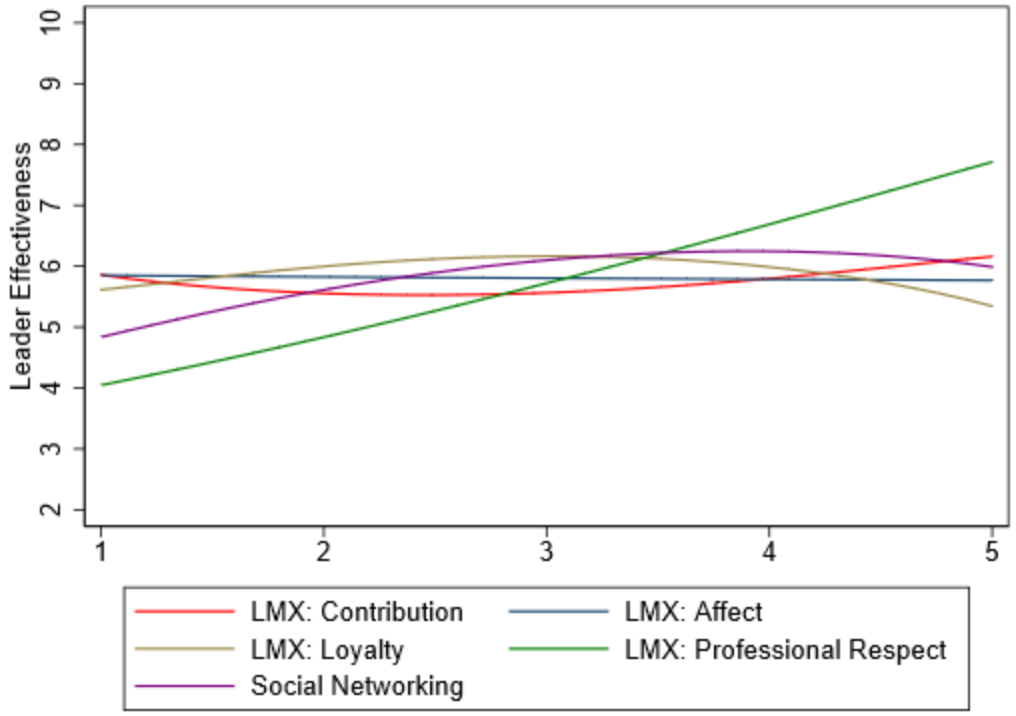


Figure A6.1. Judgment policy by leadership quality for Case 6 based on observed leader-effectiveness scores.

Case 6 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

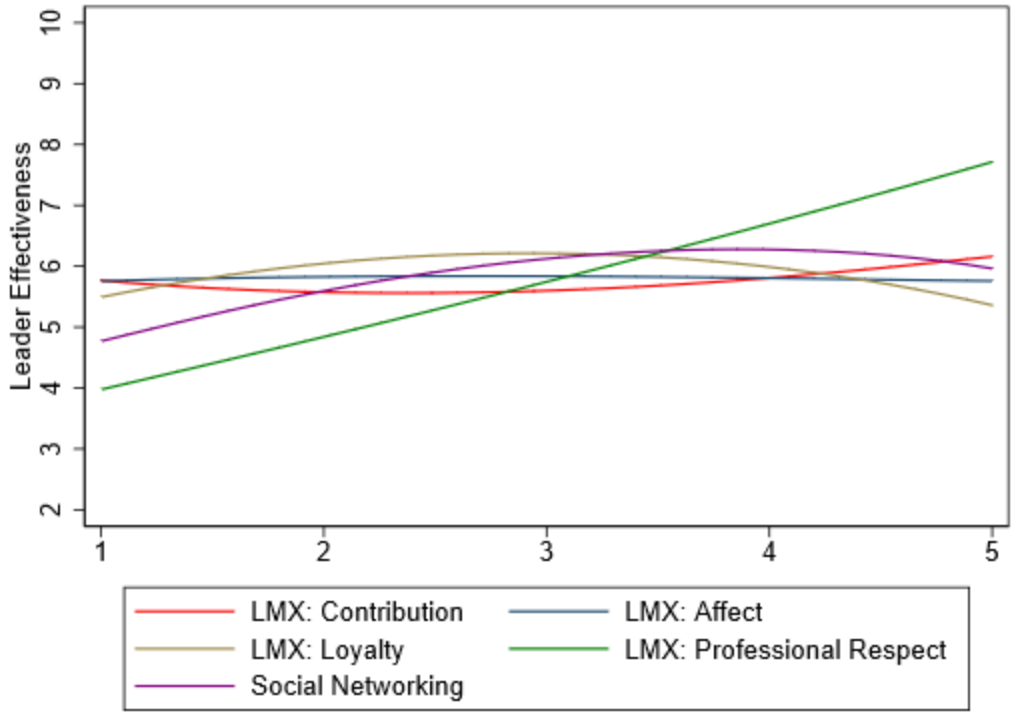


Figure A6.2. Judgment policy by leadership quality for Case 6 based on predicted leader-effectiveness scores from quadric regression.

Table A7.1

Case 7 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.66	1.18	-0.56	.581	-3.08	1.76
contribution2	0.14	0.20	0.71	.481	-0.26	0.55
loyal	0.75	1.26	0.59	.559	-1.84	3.33
loyal2	-0.06	0.20	-0.28	.784	-0.48	0.36
affect	1.77	1.17	1.51	.143	-0.64	4.17
affect2	-0.25	0.20	-1.29	.208	-0.66	0.15
respect	0.82	1.14	0.72	.476	-1.52	3.16
respect2	-0.02	0.19	-0.11	.912	-0.41	0.37
network	-0.80	1.22	-0.66	.517	-3.31	1.71
network2	0.12	0.20	0.63	.535	-0.28	0.53

Note. $F_{(10, 26)} = 20.18$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A7.2

Case 7 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.16	0.21	0.78	.441	0.11
loyal	0.41	0.23	1.83	.076	0.27
affect	0.28	0.21	1.32	.198	0.19
respect	0.75	0.21	3.65	.001	0.51
network	0.00	0.23	0.01	.993	0.00

Note. $F_{(5, 31)} = 43.58$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 7 Observed Judgment Policy of School Building Leader Effectiveness

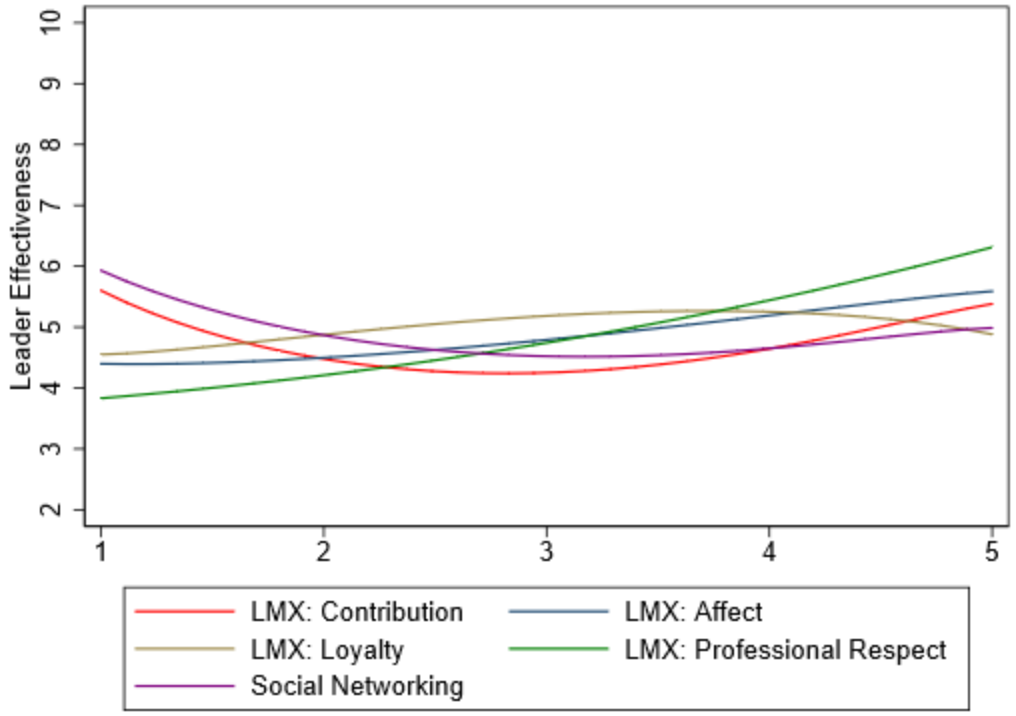


Figure A7.1. Judgment policy by leadership quality for Case 7 based on observed leader-effectiveness scores.

Case 7 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

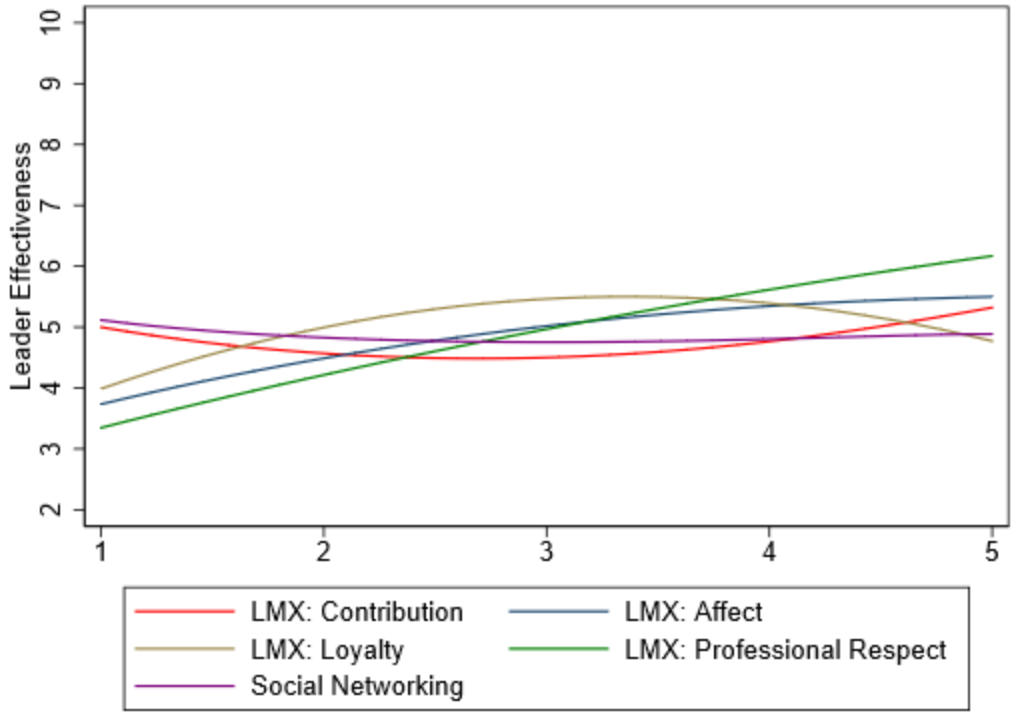


Figure A7.2. Judgment policy by leadership quality for Case 7 based on predicted leader-effectiveness scores from quadric regression.

Table A8.1

Case 8 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.27	1.17	0.23	.822	-2.15	2.68
contrib2	0.02	0.20	0.10	.917	-0.38	0.42
Loyal	-0.30	1.25	-0.24	.813	-2.88	2.28
loyal2	0.10	0.20	0.50	.618	-0.32	0.52
Affect	1.90	1.16	1.63	.115	-0.49	4.29
affect2	-0.29	0.20	-1.51	.144	-0.70	0.11
Respect	-0.67	1.13	-0.59	.560	-3.00	1.66
respect2	0.19	0.19	1.01	.322	-0.20	0.58
Network	1.19	1.22	0.98	.336	-1.31	3.69
network2	-0.17	0.20	-0.86	.396	-0.58	0.24

Note. $F_{(10, 26)} = 25.72$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A8.2

Case 8 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.45	0.22	2.08	.046	0.31
Loyal	0.37	0.23	1.60	.121	0.24
Affect	0.21	0.22	0.98	.333	0.15
Respect	0.57	0.21	2.70	.011	0.39
Network	0.23	0.23	0.97	.338	0.14

Note. $F_{(5, 31)} = 52.62$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 8 Observed Judgment Policy of School Building Leader Effectiveness

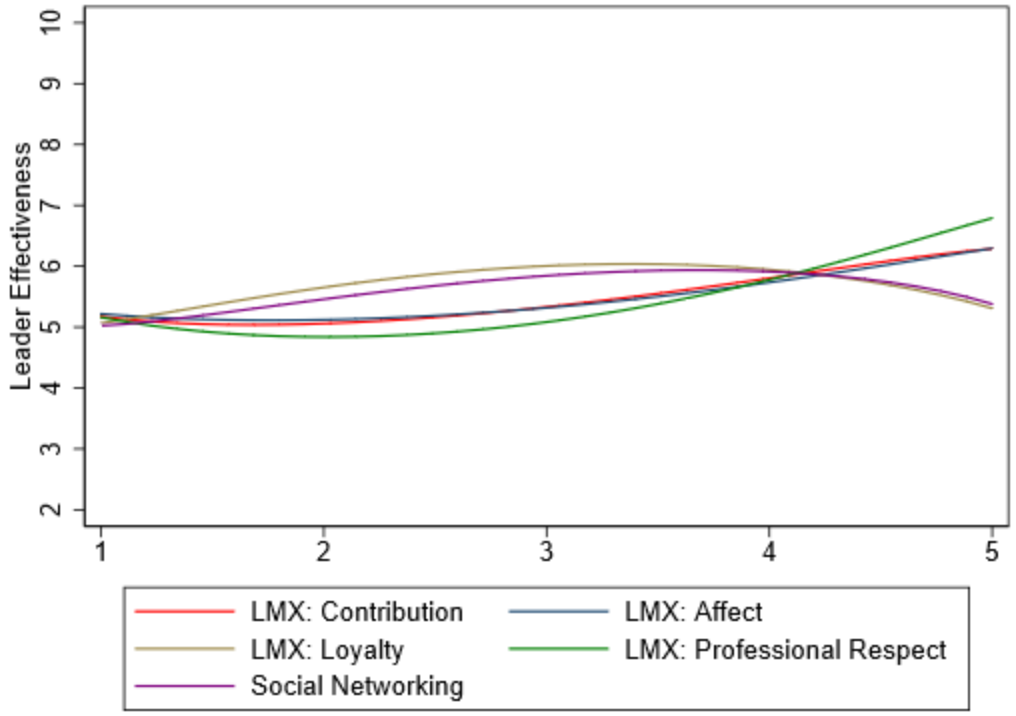


Figure A8.1. Judgment policy by leadership quality for Case 8 based on observed leader-effectiveness scores.

Case 8 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

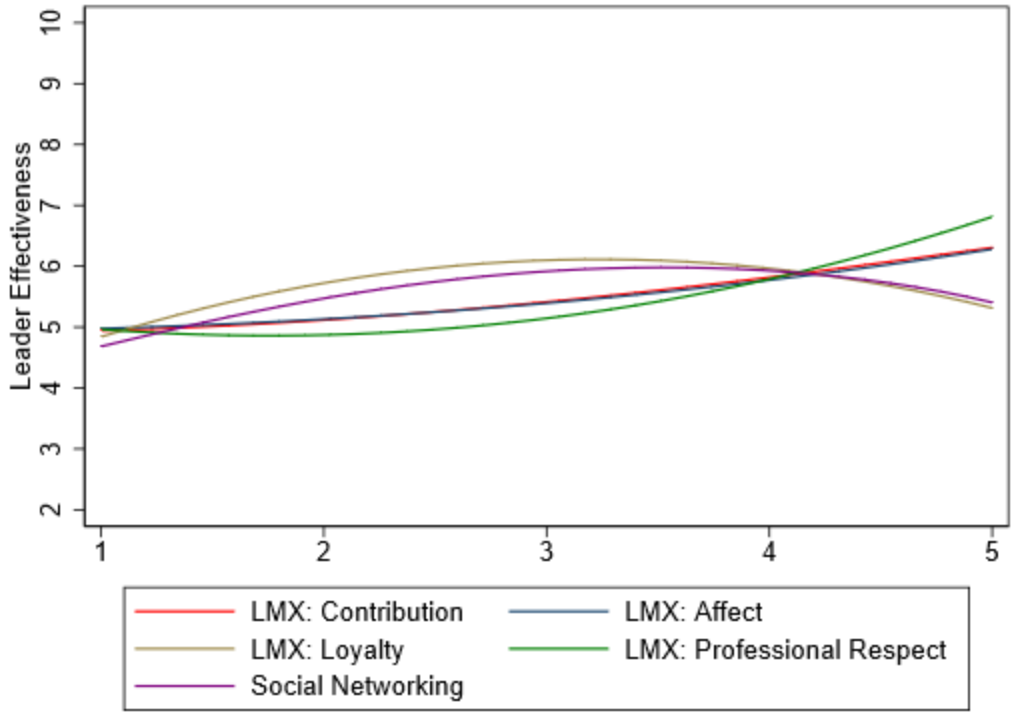


Figure A8.2. Judgment policy by leadership quality for Case 8 based on predicted leader-effectiveness scores from quadric regression.

Table A9.1

Case 9 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.99	1.12	0.88	.387	-1.32	3.30
contribution2	-0.11	0.19	-0.60	.551	-0.50	0.27
loyal	-3.36	1.20	-2.80	.010	-5.83	-0.89
loyal2	0.58	0.19	2.99	.006	0.18	0.98
affect	1.84	1.11	1.65	.110	-0.45	4.13
affect2	-0.30	0.19	-1.62	.117	-0.69	0.08
respect	1.68	1.08	1.55	.134	-0.55	3.91
respect2	-0.08	0.18	-0.42	.677	-0.44	0.29
network	0.32	1.16	0.28	.784	-2.07	2.71
network2	0.03	0.19	0.18	.857	-0.35	0.42

Note. $F_{(10, 26)} = 32.58$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Table A9.2

Case 9 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.23	0.23	1.00	.326	0.12
loyal	0.12	0.24	0.48	.634	0.06
affect	0.01	0.23	0.05	.963	0.01
respect	1.07	0.22	4.81	.000	0.56
network	0.48	0.25	1.95	.060	0.23

Note. $F_{(5, 31)} = 53.56$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 9 Observed Judgment Policy of School Building Leader Effectiveness

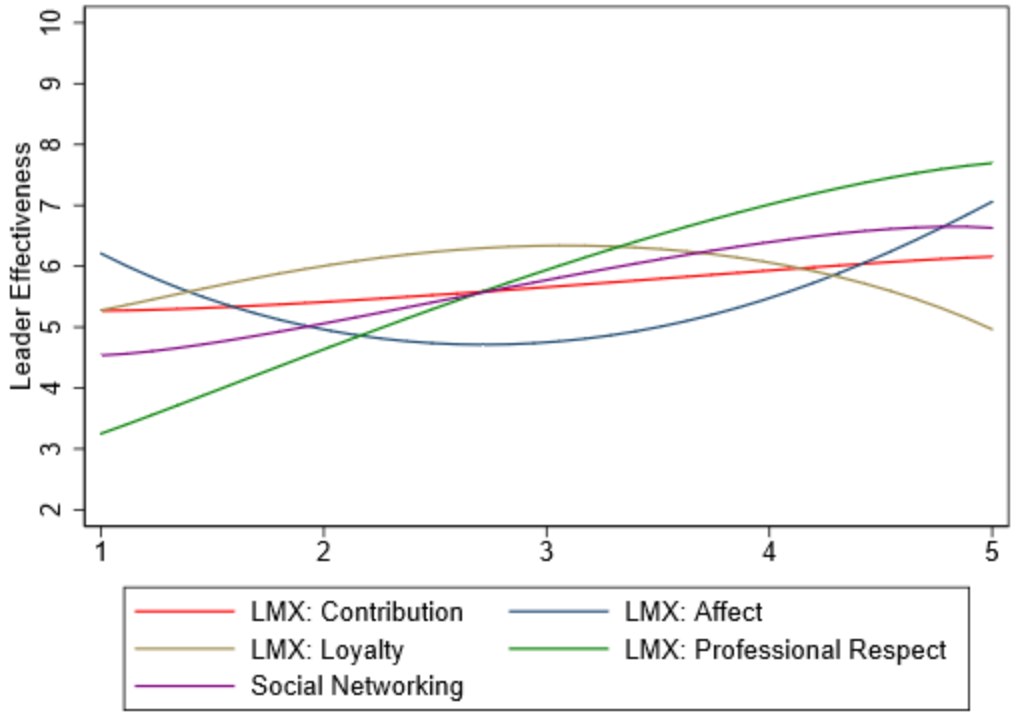


Figure A9.1. Judgment policy by leadership quality for Case 9 based on observed leader-effectiveness scores.

Case 9 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

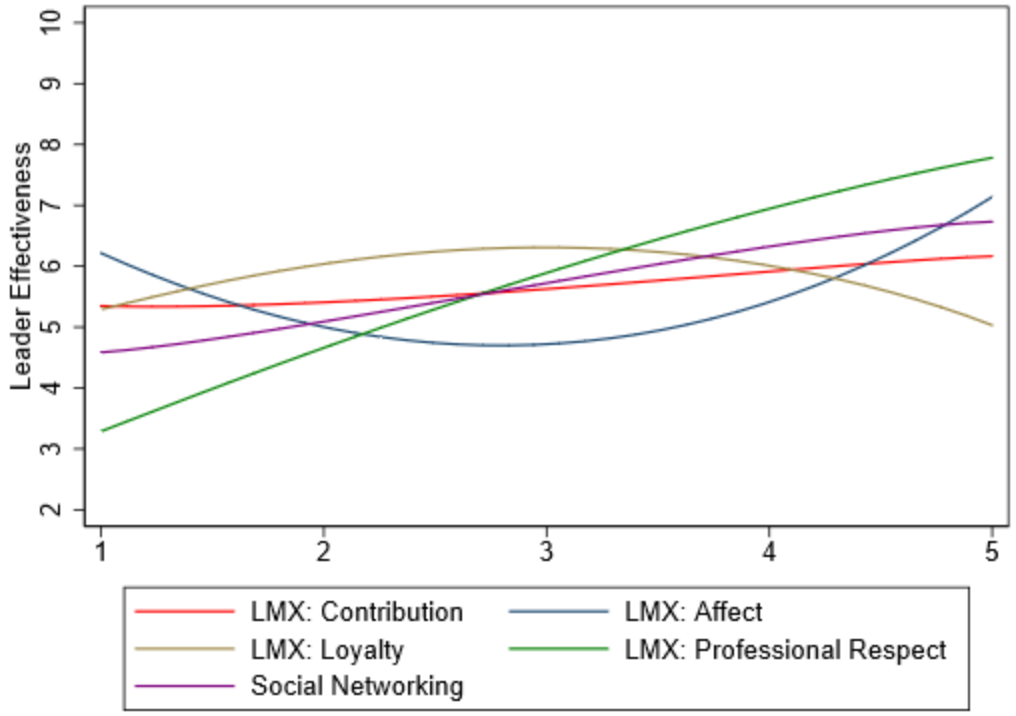


Figure A9.2. Judgment policy by leadership quality for Case 9 based on predicted leader-effectiveness scores from quadric regression.

Table A10.1

Case 10 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.26	1.08	1.17	.255	-0.96	3.47
contribution2	-0.18	0.18	-0.97	.339	-0.55	0.19
loyal	-1.39	1.15	-1.21	.238	-3.76	0.98
loyal2	0.26	0.19	1.38	.180	-0.13	0.64
affect	1.21	1.07	1.13	.268	-0.99	3.41
affect2	-0.22	0.18	-1.21	.238	-0.59	0.15
respect	1.96	1.04	1.88	.071	-0.18	4.10
respect2	-0.13	0.17	-0.78	.442	-0.49	0.22
network	-0.52	1.12	-0.47	.643	-2.82	1.77
network2	0.06	0.18	0.30	.764	-0.32	0.43

Note. $F_{(10, 26)} = 27.84$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .88$

Table A10.2

Case 10 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.20	1.31	.201	0.16
loyal	0.25	0.21	1.17	.251	0.15
affect	0.04	0.20	0.21	.833	0.03
respect	1.20	0.20	6.13	.000	0.75
network	-0.08	0.22	-0.36	.720	-0.04

Note. $F_{(5, 31)} = 55.30$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 10 Observed Judgment Policy of School Building Leader Effectiveness

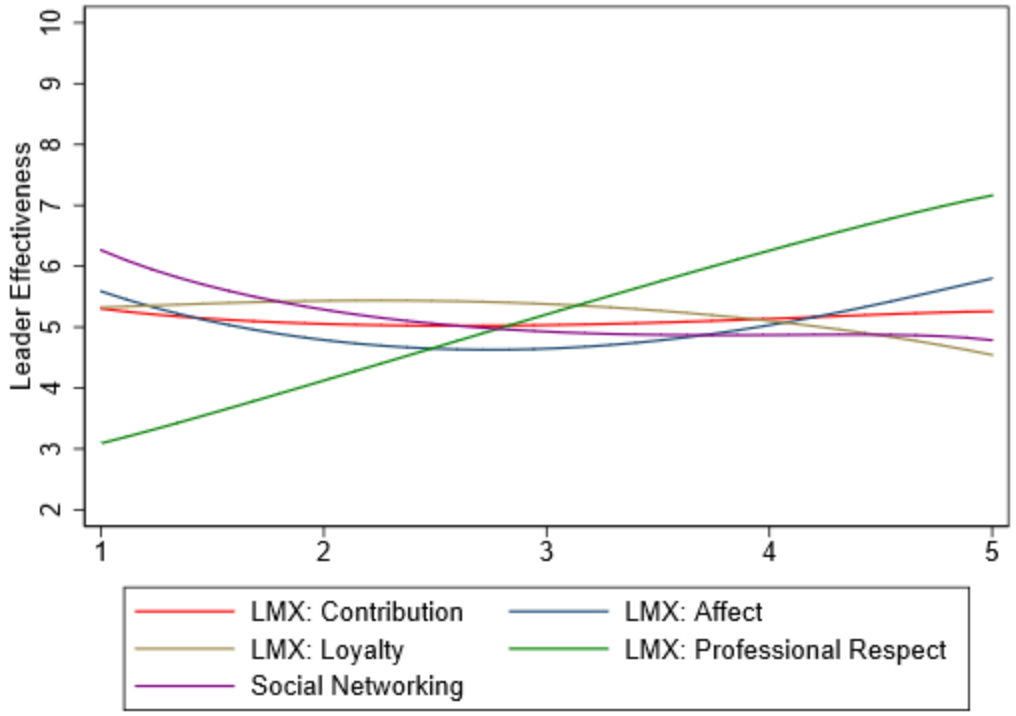


Figure A10.1. Judgment policy by leadership quality for Case 10 based on observed leader-effectiveness scores.

Case 10 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

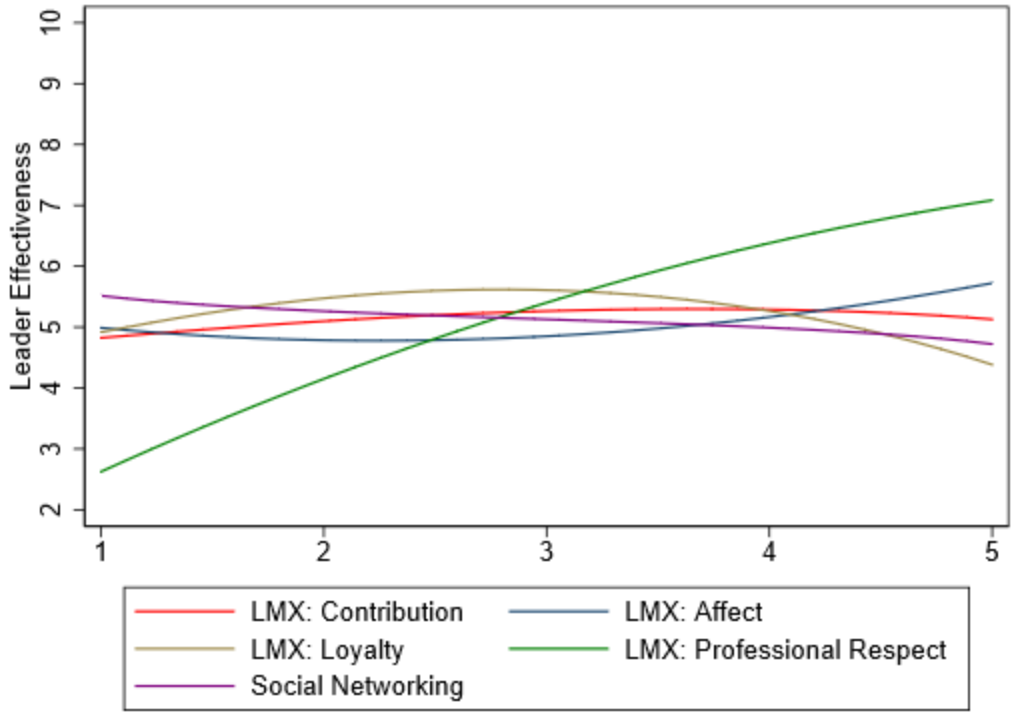


Figure A10.2. Judgment policy by leadership quality for Case 10 based on predicted leader-effectiveness scores from quadric regression.

Table A11.1

Case 11 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.22	0.96	0.23	.821	-1.75	2.19
contribution2	-0.02	0.16	-0.15	.882	-0.35	0.31
loyal	-1.24	1.03	-1.21	.236	-3.35	0.87
loyal2	0.25	0.17	1.48	.152	-0.10	0.59
affect	0.18	0.95	0.19	.853	-1.78	2.14
affect2	-0.03	0.16	-0.20	.841	-0.36	0.30
respect	1.60	0.93	1.73	.096	-0.30	3.51
respect2	-0.10	0.15	-0.64	.526	-0.41	0.22
network	0.77	0.99	0.78	.445	-1.27	2.82
network2	-0.05	0.16	-0.31	.756	-0.38	0.28

Note. $F_{(10, 26)} = 33.83$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A11.2

Case 11 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.06	0.17	0.35	.729	0.04
loyal	0.24	0.18	1.31	.198	0.15
affect	-0.02	0.17	-0.11	.911	-0.01
respect	0.95	0.17	5.67	.000	0.62
network	0.44	0.19	2.36	.025	0.26

Note. $F_{(5, 31)} = 73.23$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 11 Observed Judgment Policy of School Building Leader Effectiveness

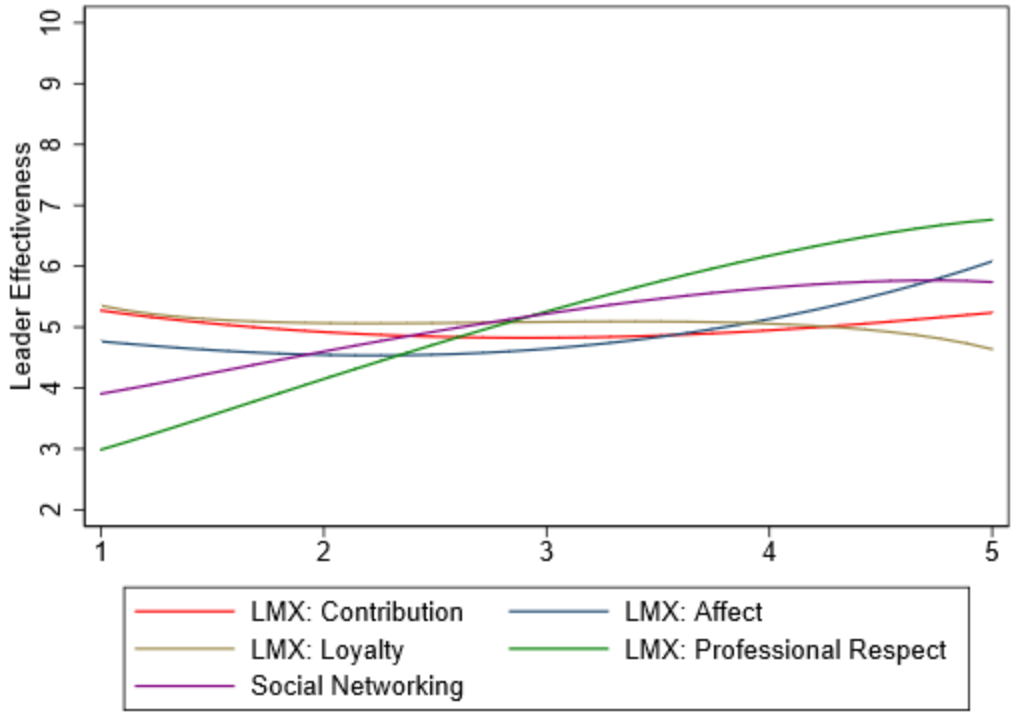


Figure A11.1. Judgment policy by leadership quality for Case 11 based on observed leader-effectiveness scores.

Case 11 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

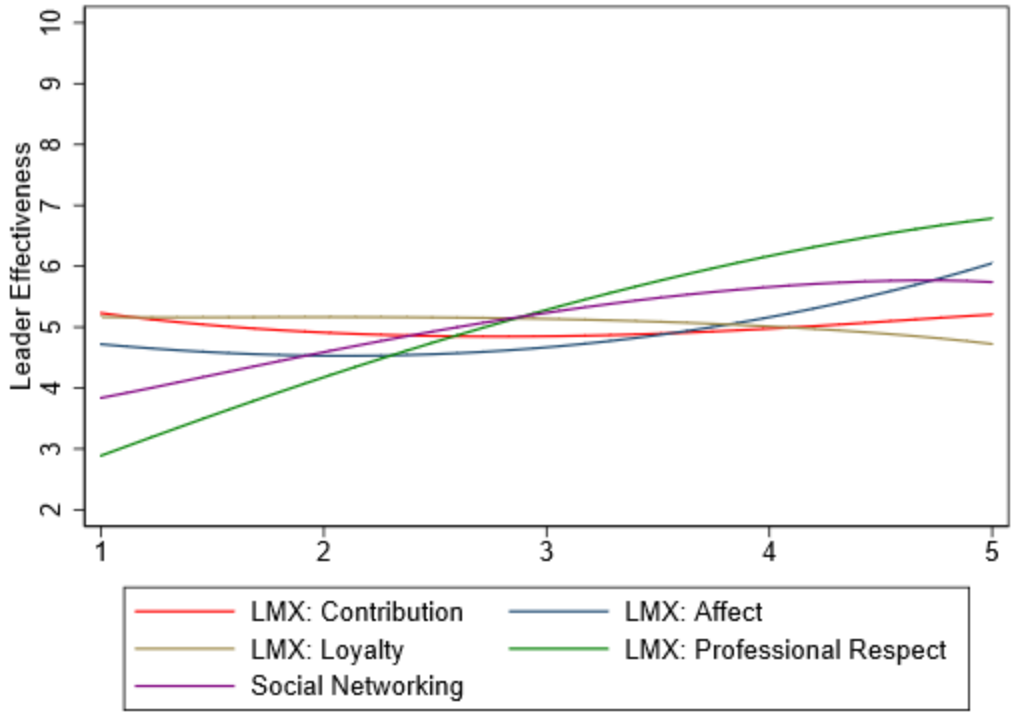


Figure A11.2. Judgment policy by leadership quality for Case 11 based on predicted leader-effectiveness scores from quadric regression.

Table A12.1

Case 12 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.04	1.61	-0.03	.980	-3.35	3.27
contribution2	0.00	0.27	0.01	.989	-0.55	0.56
loyal	1.02	1.72	0.59	.558	-2.52	4.56
loyal2	-0.04	0.28	-0.16	.873	-0.62	0.53
affect	2.37	1.60	1.48	.150	-0.91	5.65
affect2	-0.40	0.27	-1.49	.149	-0.95	0.15
respect	-0.96	1.55	-0.61	.544	-4.15	2.24
respect2	0.20	0.26	0.78	.445	-0.33	0.73
network	1.21	1.67	0.72	.475	-2.22	4.63
network2	-0.14	0.27	-0.51	.615	-0.70	0.42

Note. $F_{(10, 26)} = 20.14$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A12.2

Case 12 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.30	0.38	.704	0.06
loyal	0.87	0.32	2.75	.010	0.42
affect	0.17	0.30	0.56	.582	0.08
respect	0.48	0.29	1.64	.111	0.23
network	0.55	0.32	1.71	.097	0.25

Note. $F_{(5, 31)} = 40.75$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 12 Observed Judgment Policy of School Building Leader Effectiveness

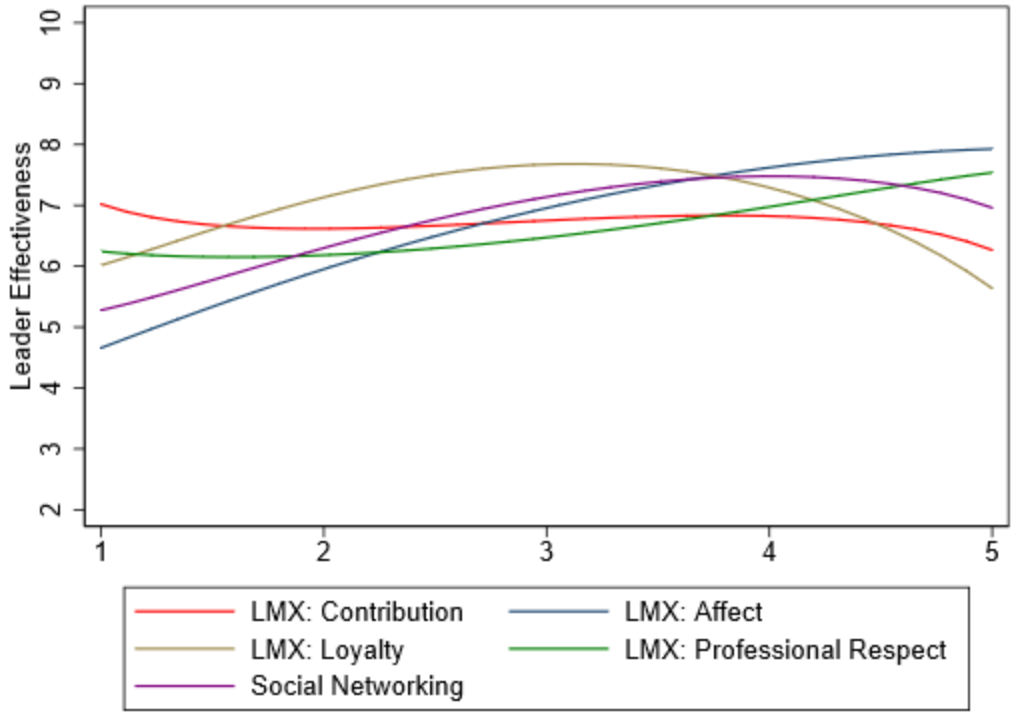


Figure A12.1. Judgment policy by leadership quality for Case 12 based on observed leader-effectiveness scores.

Case 12 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

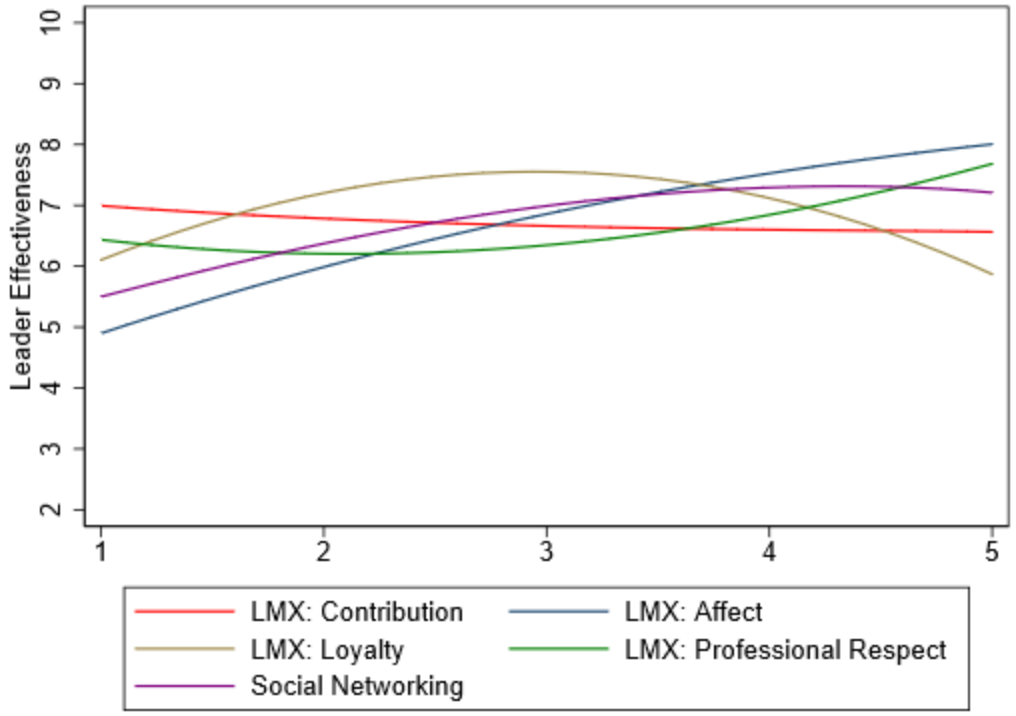


Figure A12.2. Judgment policy by leadership quality for Case 12 based on predicted leader-effectiveness scores from quadric regression.

Table A13.1

Case 13 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.68	1.22	-0.56	.581	-3.20	1.83
contribution2	0.12	0.20	0.57	.576	-0.30	0.54
loyal	1.52	1.31	1.16	.257	-1.17	4.20
loyal2	-0.23	0.21	-1.10	.283	-0.67	0.20
affect	1.95	1.21	1.61	.119	-0.54	4.45
affect2	-0.32	0.20	-1.55	.133	-0.73	0.10
respect	2.72	1.18	2.30	.029	0.29	5.15
respect2	-0.28	0.20	-1.44	.163	-0.68	0.12
network	-1.63	1.27	-1.29	.210	-4.23	0.97
network2	0.20	0.21	0.95	.351	-0.23	0.62

Note. $F_{(10, 26)} = 27.67$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Table A13.2

Case 13 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.25	0.59	.562	0.08
loyal	0.30	0.26	1.13	.266	0.16
affect	0.31	0.25	1.23	.228	0.17
respect	1.32	0.24	5.49	.000	0.74
network	-0.18	0.27	-0.66	.514	-0.09

Note. $F_{(5, 31)} = 45.96$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 13 Observed Judgment Policy of School Building Leader Effectiveness

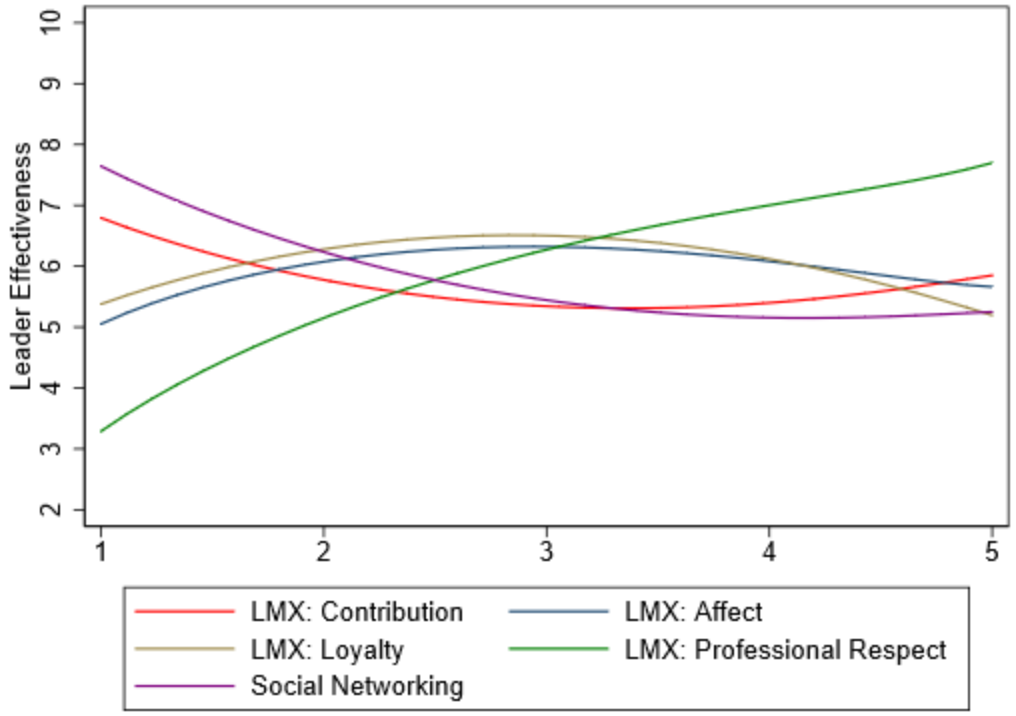


Figure A13.1. Judgment policy by leadership quality for Case 13 based on observed leader-effectiveness scores.

Case 13 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

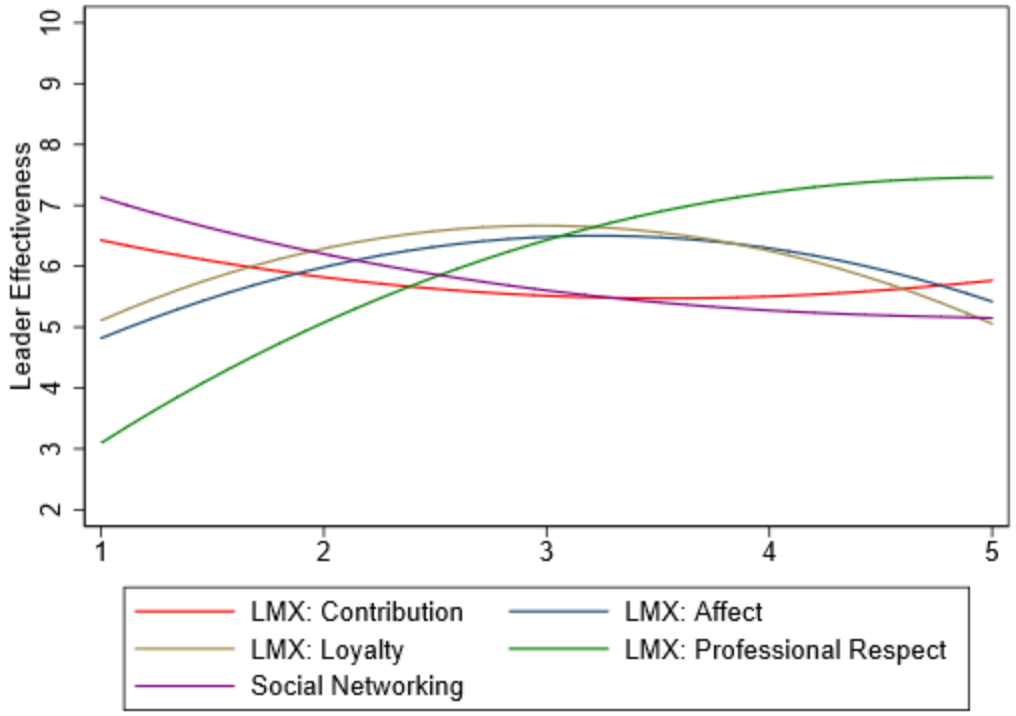


Figure A13.2. Judgment policy by leadership quality for Case 13 based on predicted leader-effectiveness scores from quadric regression.

Table A14.1

Case 14 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.52	1.09	1.39	.176	-0.72	3.76
contribution2	-0.23	0.18	-1.24	.224	-0.60	0.15
loyal	0.41	1.16	0.36	.725	-1.98	2.81
loyal2	-0.05	0.19	-0.24	.813	-0.43	0.34
affect	1.73	1.08	1.60	.121	-0.49	3.95
affect2	-0.30	0.18	-1.63	.115	-0.67	0.08
respect	1.54	1.05	1.46	.156	-0.63	3.70
respect2	-0.13	0.17	-0.75	.460	-0.49	0.23
network	-1.39	1.13	-1.23	.229	-3.71	0.93
network2	0.23	0.18	1.23	.230	-0.15	0.60

Note. $F_{(10, 26)} = 36.19$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A14.2

Case 14 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.29	0.22	1.33	.194	0.20
loyal	0.30	0.23	1.28	.209	0.20
affect	0.21	0.22	0.94	.354	0.14
respect	0.96	0.21	4.46	.000	0.66
network	0.22	0.24	0.94	.354	0.14

Note. $F_{(5, 31)} = 60.68$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 14 Observed Judgment Policy of School Building Leader Effectiveness

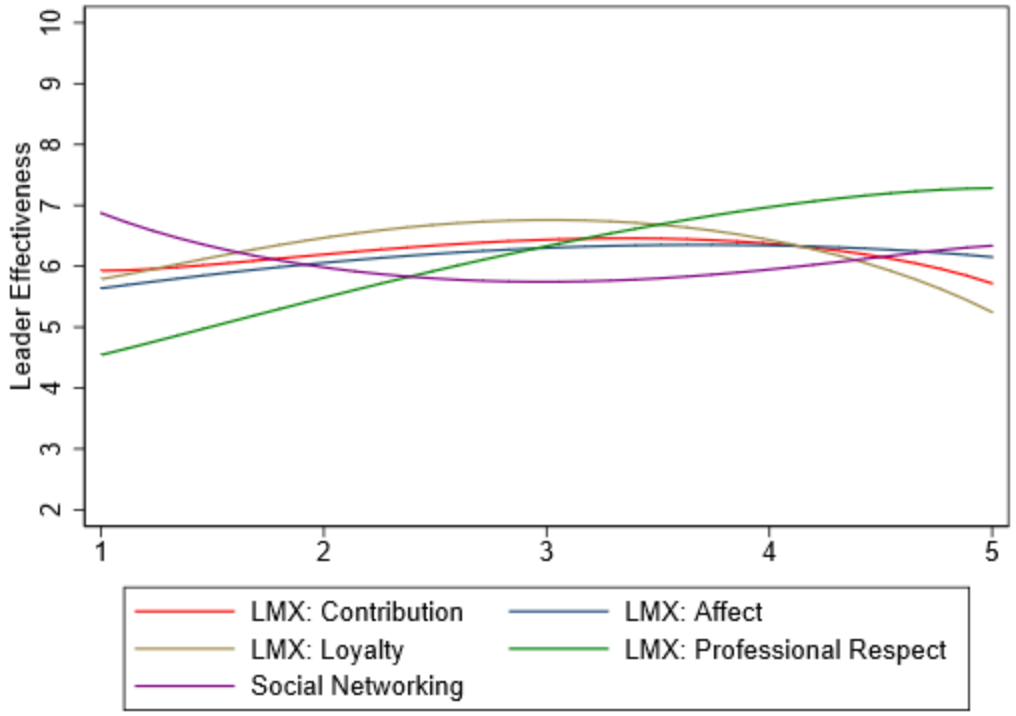


Figure A14.1. Judgment policy by leadership quality for Case 14 based on observed leader-effectiveness scores.

Case 14 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

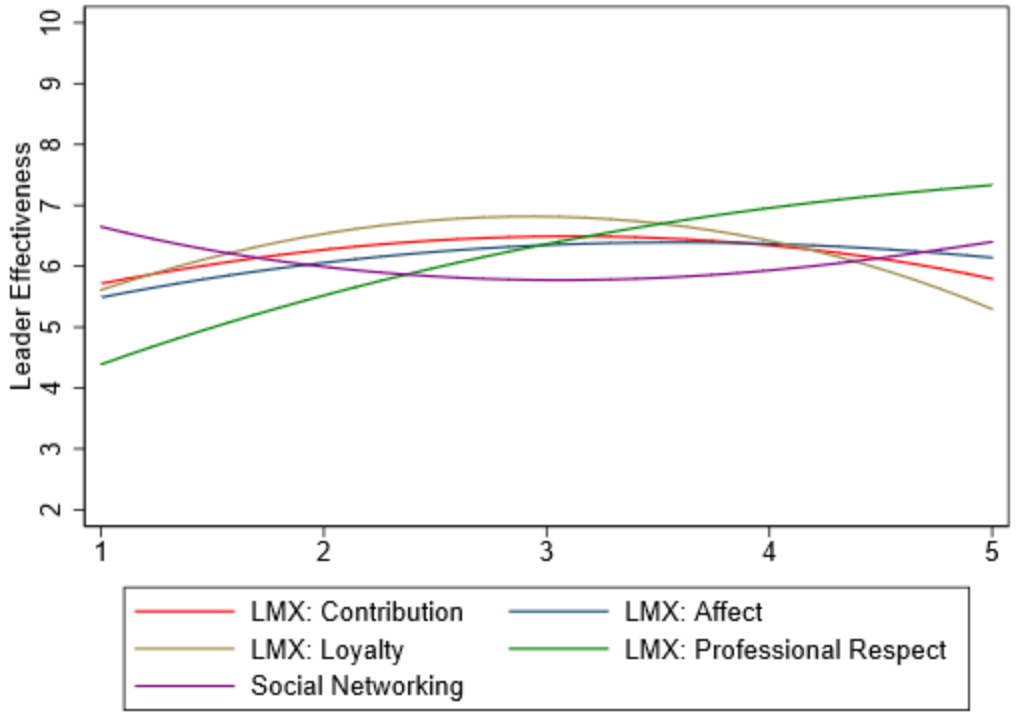


Figure A14.2. Judgment policy by leadership quality for Case 14 based on predicted leader-effectiveness scores from quadric regression.

Table A15.1

Case 15 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.37	1.28	0.28	.778	-2.27	3.00
contribution2	-0.03	0.21	-0.12	.902	-0.47	0.41
loyal	-0.47	1.37	-0.34	.733	-3.29	2.34
loyal2	0.09	0.22	0.39	.701	-0.37	0.54
affect	1.24	1.27	0.98	.338	-1.37	3.85
affect2	-0.20	0.21	-0.93	.363	-0.64	0.24
respect	1.27	1.24	1.03	.314	-1.27	3.81
respect2	-0.15	0.20	-0.74	.464	-0.57	0.27
network	1.25	1.33	0.94	.354	-1.48	3.98
network2	-0.14	0.22	-0.65	.520	-0.58	0.30

Note. $F_{(10, 26)} = 26.51$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A15.2

Case 15 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.24	1.56	.130	0.26
loyal	0.23	0.25	0.90	.374	0.15
affect	0.27	0.24	1.14	.264	0.19
respect	0.57	0.23	2.48	.019	0.40
network	0.60	0.26	2.32	.027	0.38

Note. $F_{(5, 31)} = 54.17$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 15 Observed Judgment Policy of School Building Leader Effectiveness

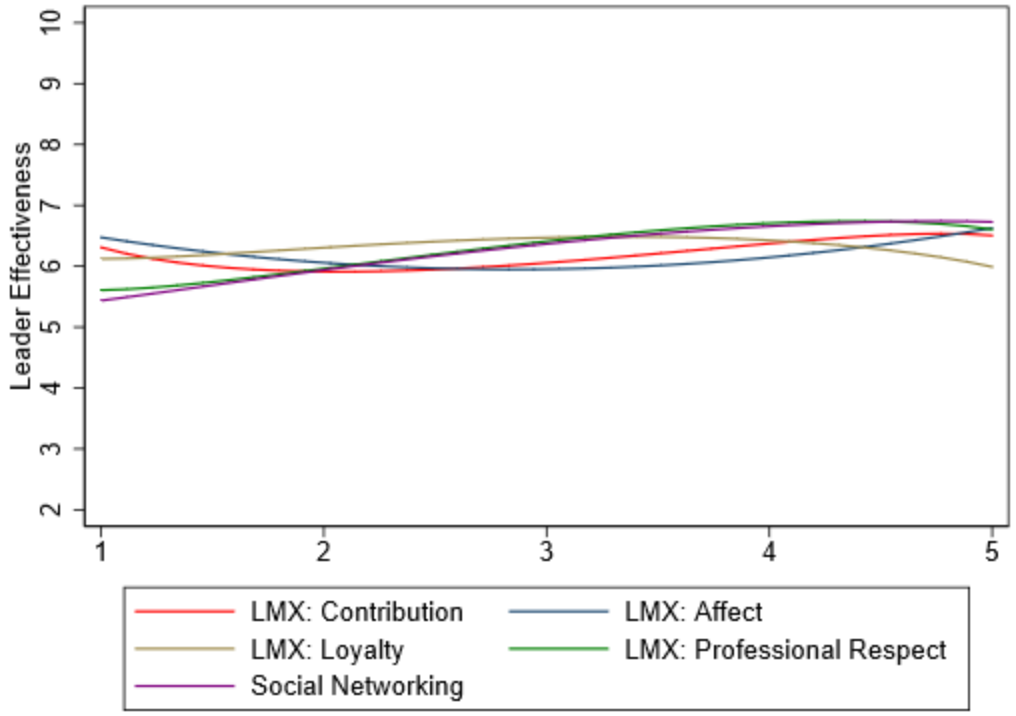


Figure A15.1. Judgment policy by leadership quality for Case 15 based on observed leader-effectiveness scores.

Case 15 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

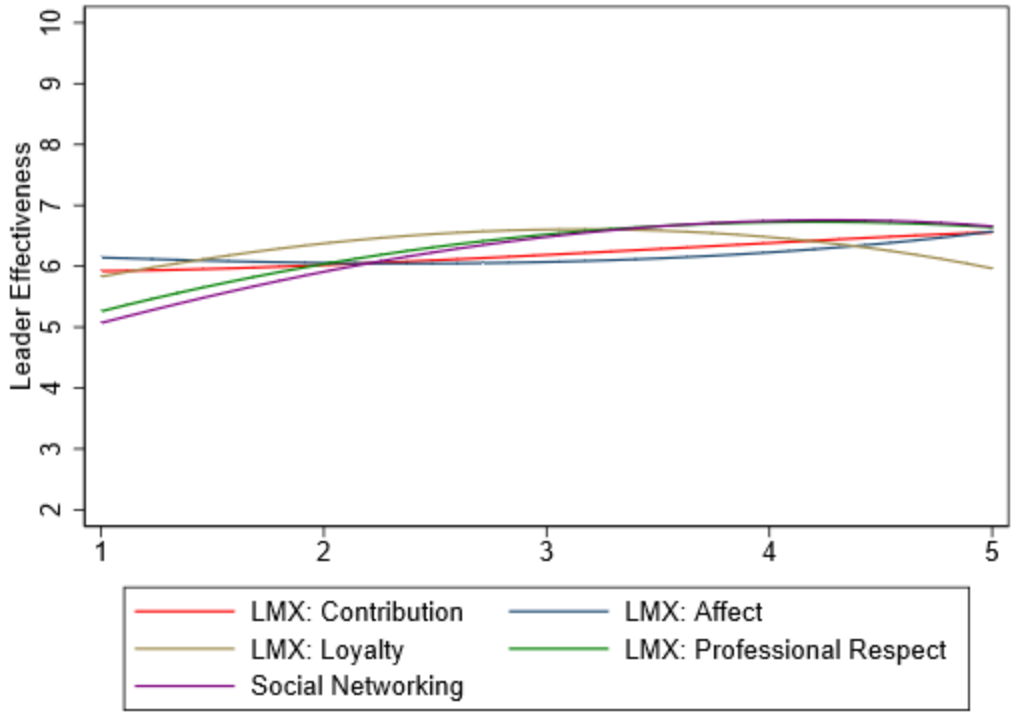


Figure A15.2. Judgment policy by leadership quality for Case 15 based on predicted leader-effectiveness scores from quadric regression.

Table A16.1

Case 16 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.40	0.91	1.54	.136	-0.47	3.28
contribution2	-0.17	0.15	-1.09	.284	-0.48	0.15
loyal	-0.96	0.97	-0.99	.332	-2.97	1.04
loyal2	0.22	0.16	1.39	.175	-0.10	0.55
affect	1.72	0.90	1.90	.069	-0.14	3.57
affect2	-0.30	0.15	-1.97	.059	-0.61	0.01
respect	-0.18	0.88	-0.20	.840	-1.99	1.63
respect2	0.20	0.15	1.35	.187	-0.10	0.50
network	0.85	0.94	0.90	.376	-1.09	2.79
network2	-0.11	0.15	-0.70	.492	-0.42	0.21

Note. $F_{(10, 26)} = 65.62$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A16.2

Case 16 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.46	0.18	2.59	.015	0.30
loyal	0.41	0.19	2.17	.038	0.26
affect	0.02	0.18	0.10	.922	0.01
respect	1.06	0.17	6.10	.000	0.68
network	0.28	0.19	1.43	.162	0.16

Note. $F_{(5, 31)} = 118.31$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 16 Observed Judgment Policy of School Building Leader Effectiveness

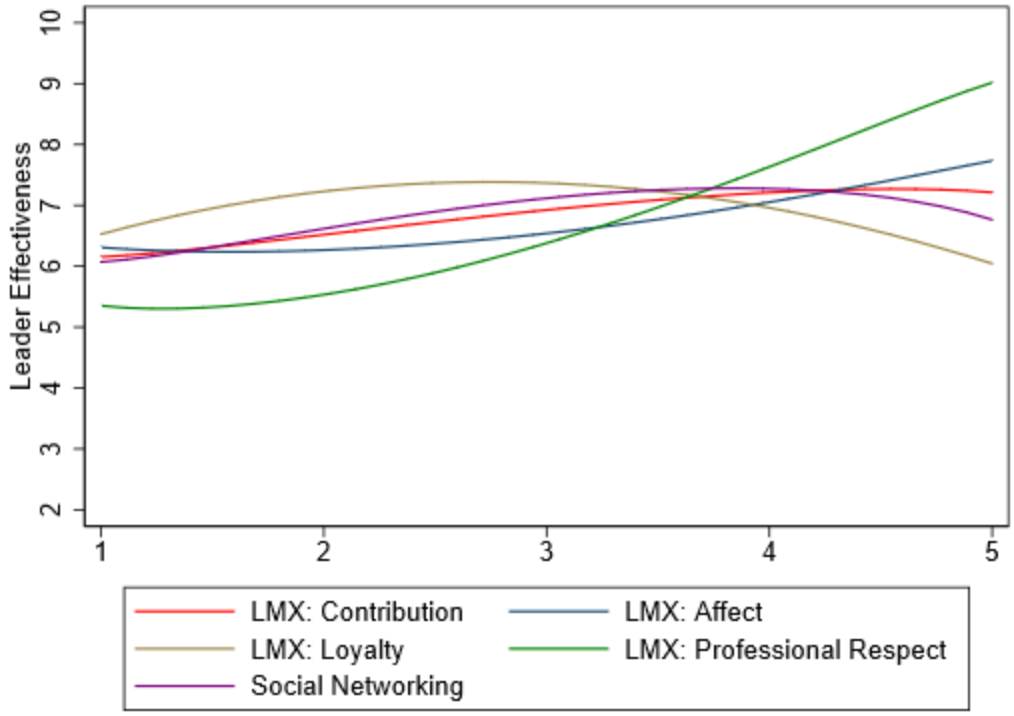


Figure A16.1. Judgment policy by leadership quality for Case 16 based on observed leader-effectiveness scores.

Case 16 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

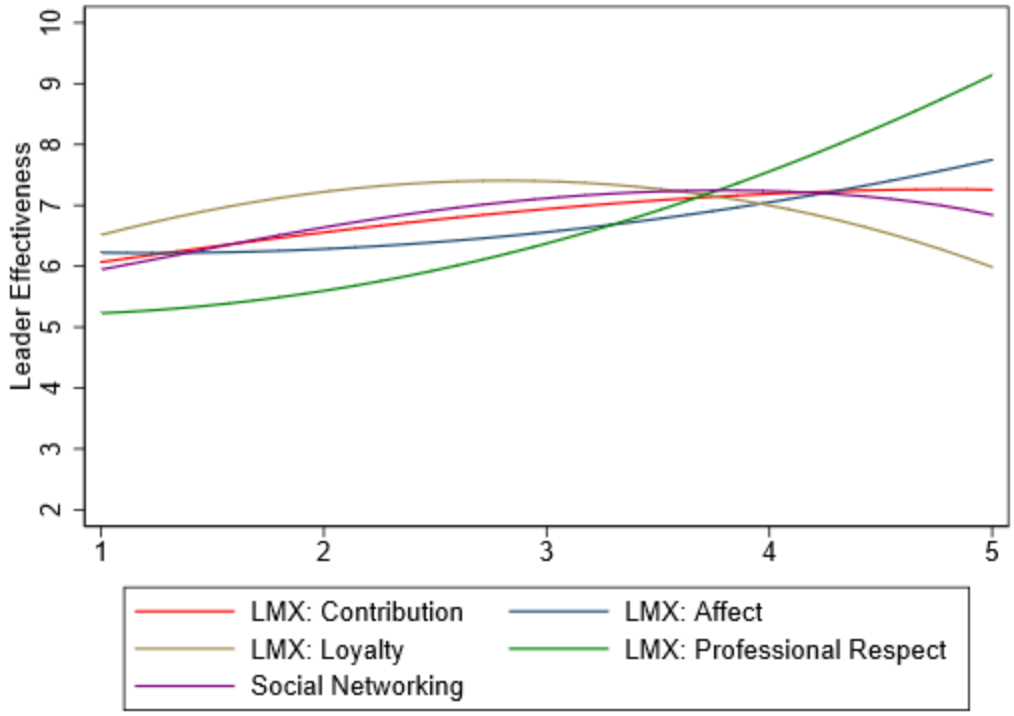


Figure A16.2. Judgment policy by leadership quality for Case 16 based on predicted leader-effectiveness scores from quadric regression.

Table A17.1

Case 17 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.24	0.76	0.32	.749	-1.31	1.80
contribution2	-0.04	0.13	-0.30	.768	-0.30	0.22
loyal	-2.02	0.81	-2.49	.019	-3.68	-0.35
loyal2	0.36	0.13	2.72	.011	0.09	0.63
affect	0.94	0.75	1.25	.224	-0.61	2.48
affect2	-0.15	0.13	-1.18	.249	-0.41	0.11
respect	1.21	0.73	1.66	.109	-0.29	2.72
respect2	-0.11	0.12	-0.91	.370	-0.36	0.14
network	1.76	0.78	2.24	.034	0.15	3.37
network2	-0.17	0.13	-1.34	.192	-0.43	0.09

Note. $F_{(10, 26)} = 56.33$ ($p < .001$), $R^2 = .956$, Adjusted $R^2 = .94$

Table A17.2

Case 17 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.06	0.15	0.43	.670	0.05
loyal	0.21	0.16	1.28	.210	0.16
affect	0.12	0.15	0.79	.436	0.10
respect	0.57	0.15	3.84	.001	0.45
network	0.77	0.16	4.68	.000	0.55

Note. $F_{(5, 31)} = 97.77$ ($p < .001$), $R^2 = .940$, Adjusted $R^2 = .93$

Case 17 Observed Judgment Policy of School Building Leader Effectiveness

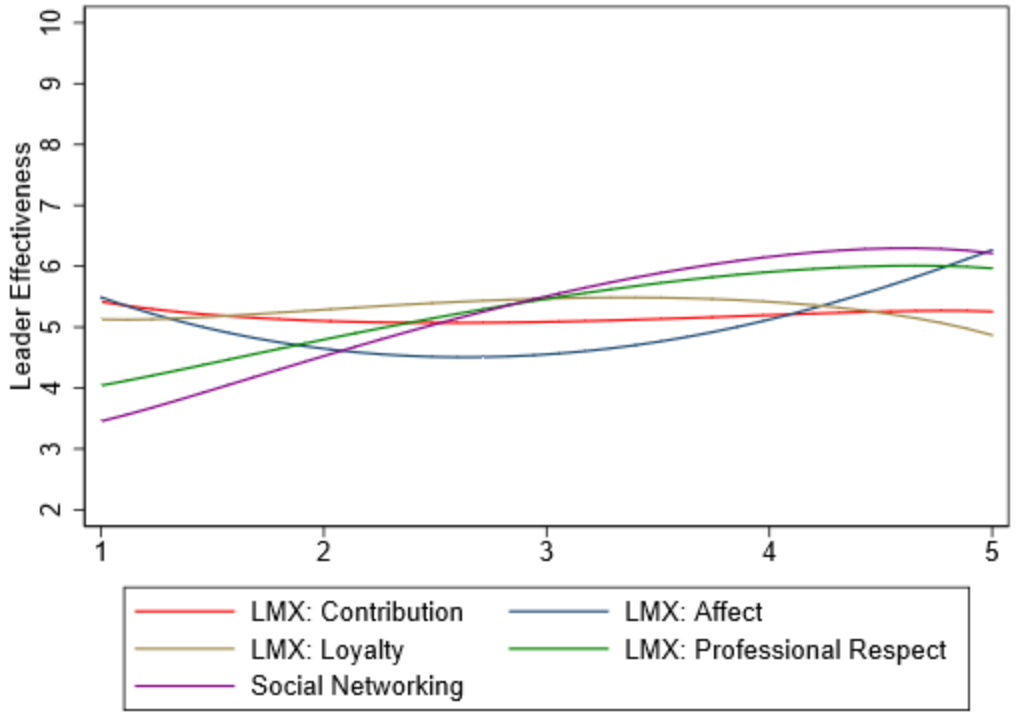


Figure A17.1. Judgment policy by leadership quality for Case 17 based on observed leader-effectiveness scores.

Case 17 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

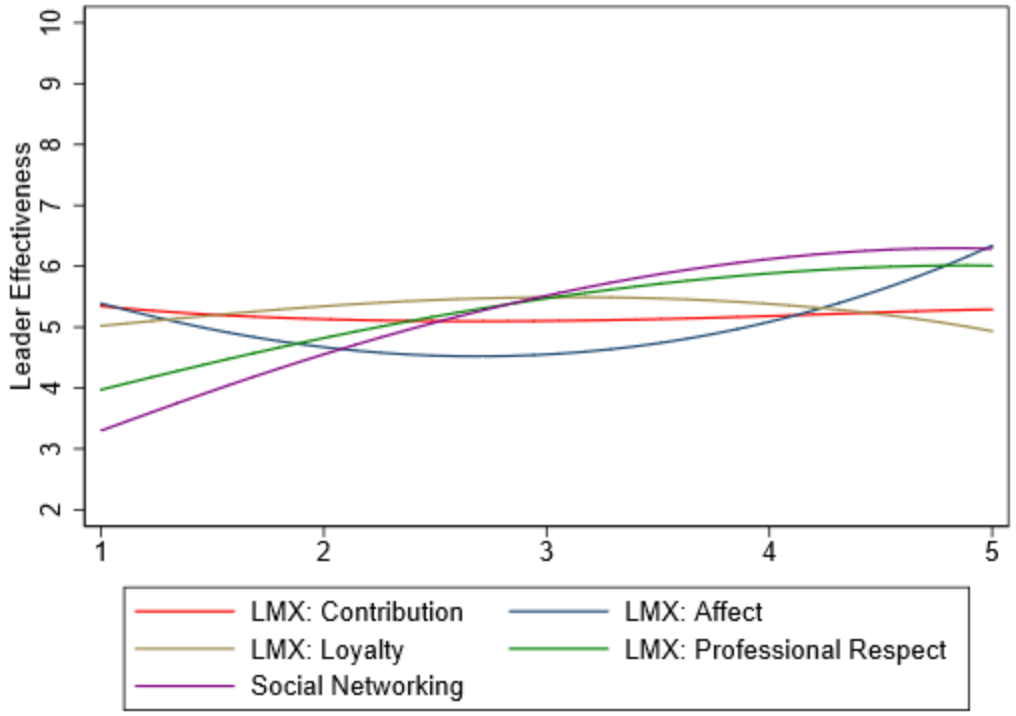


Figure A17.2. Judgment policy by leadership quality for Case 17 based on predicted leader-effectiveness scores from quadric regression.

Table A18.1

Case 18 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.65	1.15	-0.56	.577	-3.02	1.72
contribution2	0.14	0.19	0.73	.469	-0.25	0.54
loyal	-2.24	1.23	-1.82	.081	-4.76	0.29
loyal2	0.40	0.20	2.00	.056	-0.01	0.81
affect	0.53	1.14	0.47	.644	-1.81	2.88
affect2	-0.09	0.19	-0.49	.626	-0.49	0.30
respect	3.15	1.11	2.84	.009	0.87	5.44
respect2	-0.24	0.18	-1.32	.198	-0.62	0.13
network	0.78	1.19	0.66	.516	-1.66	3.23
network2	-0.09	0.19	-0.49	.630	-0.49	0.30

Note. $F_{(10, 26)} = 35.36$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A18.2

Case 18 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.22	0.64	.525	0.06
loyal	0.16	0.24	0.69	.497	0.07
affect	-0.06	0.22	-0.28	.778	-0.03
respect	1.60	0.22	7.43	.000	0.73
network	0.15	0.24	0.64	.524	0.06

Note. $F_{(5, 31)} = 66.27$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 18 Observed Judgment Policy of School Building Leader Effectiveness

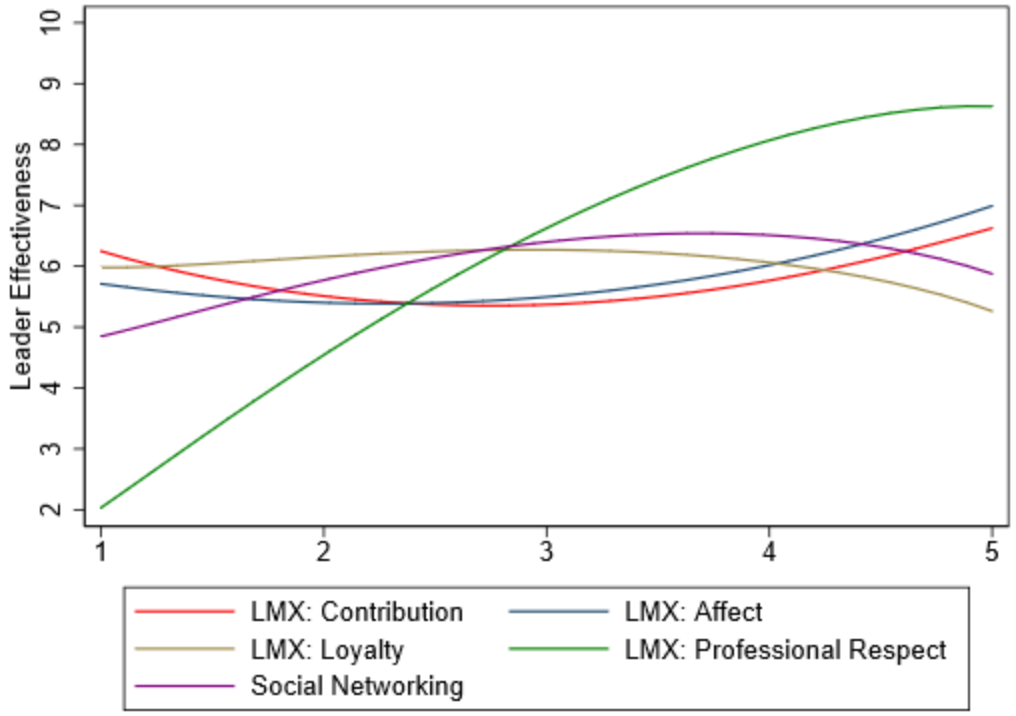


Figure A18.1. Judgment policy by leadership quality for Case 18 based on observed leader-effectiveness scores.

Case 18 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

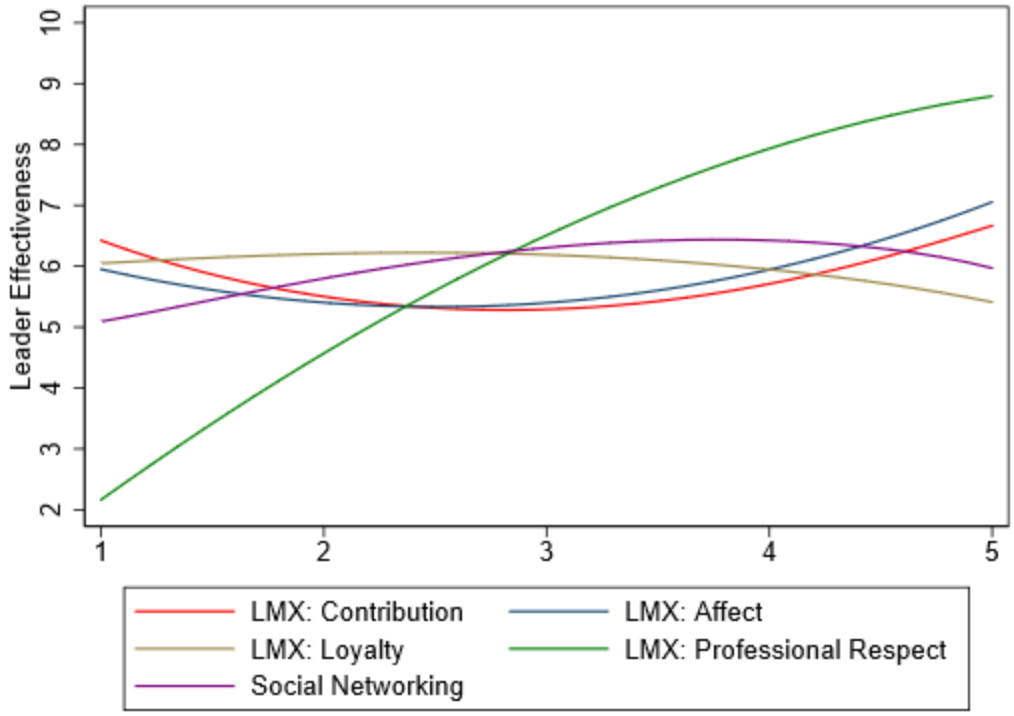


Figure A18.2. Judgment policy by leadership quality for Case 18 based on predicted leader-effectiveness scores from quadric regression.

Table A19.1

Case 19 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.53	0.81	0.65	.519	-1.13	2.19
contribution2	-0.05	0.13	-0.35	.732	-0.32	0.23
Loyal	-1.45	0.86	-1.68	.105	-3.22	0.32
loyal2	0.23	0.14	1.67	.107	-0.05	0.52
Affect	0.94	0.80	1.17	.253	-0.71	2.58
affect2	-0.16	0.13	-1.19	.246	-0.44	0.12
Respect	0.66	0.78	0.84	.406	-0.94	2.26
respect2	0.05	0.13	0.42	.677	-0.21	0.32
Network	0.98	0.84	1.18	.250	-0.73	2.70
network2	-0.03	0.14	-0.19	.854	-0.30	0.25

Note. $F_{(10, 26)} = 58.89$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A19.2

Case 19 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.22	0.15	1.46	.153	0.15
loyal	-0.06	0.16	-0.37	.711	-0.04
affect	-0.03	0.15	-0.18	.857	-0.02
respect	0.93	0.14	6.42	.000	0.63
network	0.81	0.16	5.01	.000	0.50

Note. $F_{(5, 31)} = 121.92$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 19 Observed Judgment Policy of School Building Leader Effectiveness

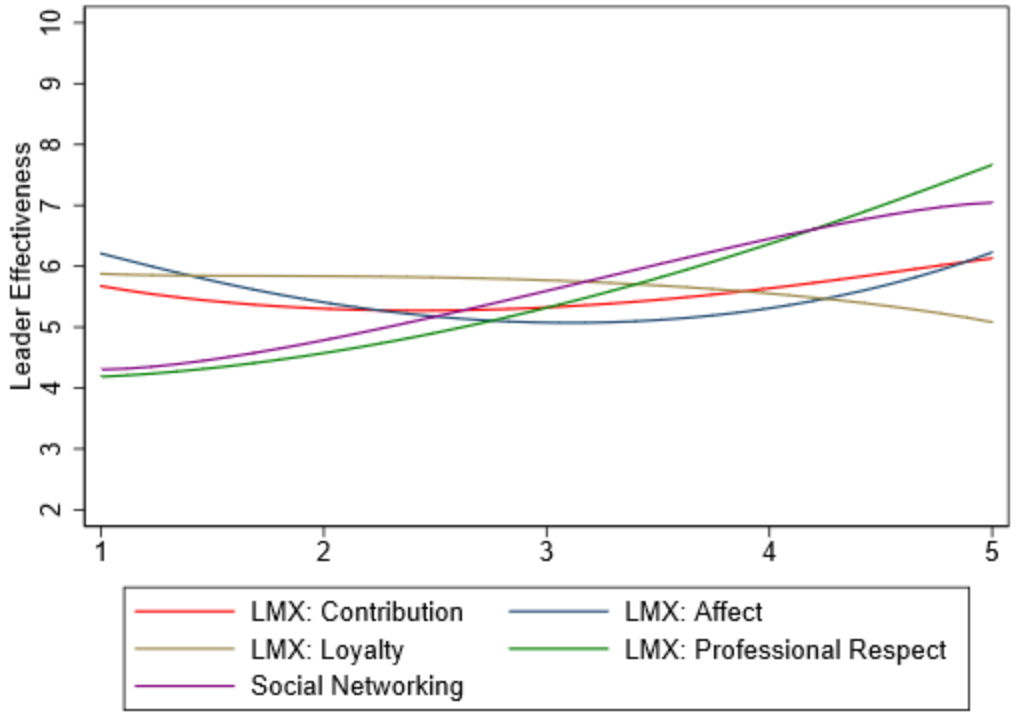


Figure A19.1. Judgment policy by leadership quality for Case 19 based on observed leader-effectiveness scores.

Case 19 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

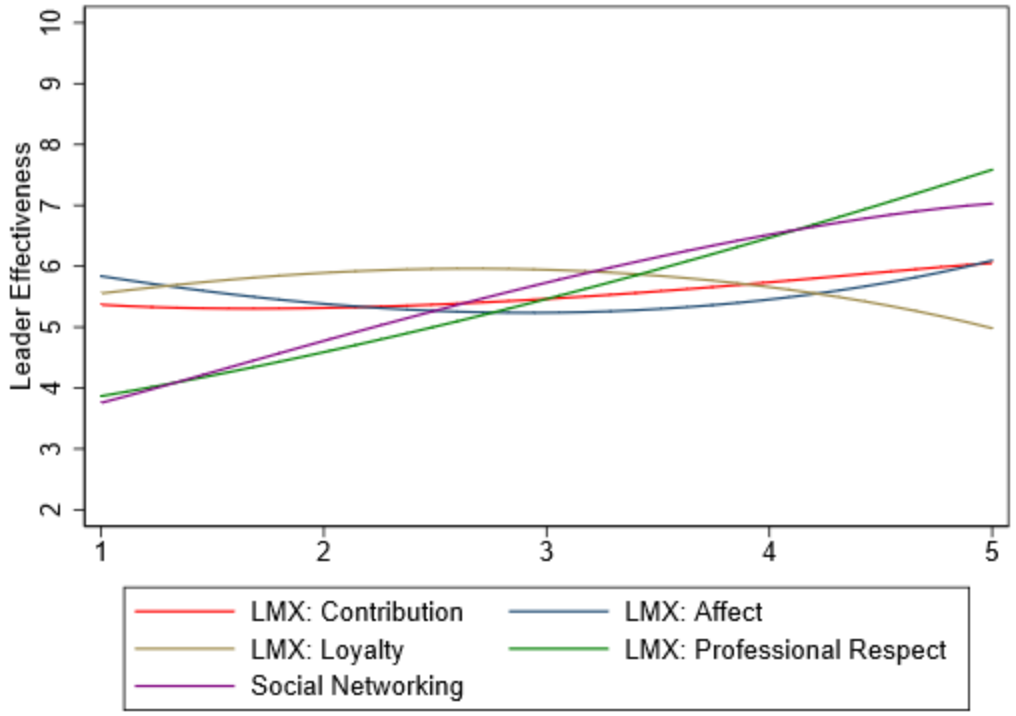


Figure A19.2. Judgment policy by leadership quality for Case 19 based on predicted leader-effectiveness scores from quadric regression.

Table A20.1

Case 20 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.93	1.62	0.57	.571	-2.40	4.26
contribution2	-0.16	0.27	-0.58	.566	-0.71	0.40
loyal	-2.18	1.73	-1.26	.220	-5.74	1.38
loyal2	0.38	0.28	1.37	.184	-0.19	0.96
affect	0.94	1.61	0.58	.564	-2.36	4.24
affect2	-0.11	0.27	-0.42	.679	-0.67	0.44
respect	1.07	1.56	0.69	.499	-2.14	4.29
respect2	0.03	0.26	0.11	.916	-0.50	0.56
network	1.45	1.68	0.87	.394	-2.00	4.90
network2	-0.15	0.27	-0.55	.584	-0.71	0.41

Note. $F_{(10, 26)} = 19.63$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .84$

Table A20.2

Case 20 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.00	0.29	0.01	.991	0.00
loyal	0.16	0.31	0.51	.613	0.07
affect	0.30	0.29	1.01	.321	0.14
respect	1.19	0.28	4.23	.000	0.55
network	0.53	0.31	1.70	.099	0.22

Note. $F_{(5, 31)} = 42.92$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 20 Observed Judgment Policy of School Building Leader Effectiveness

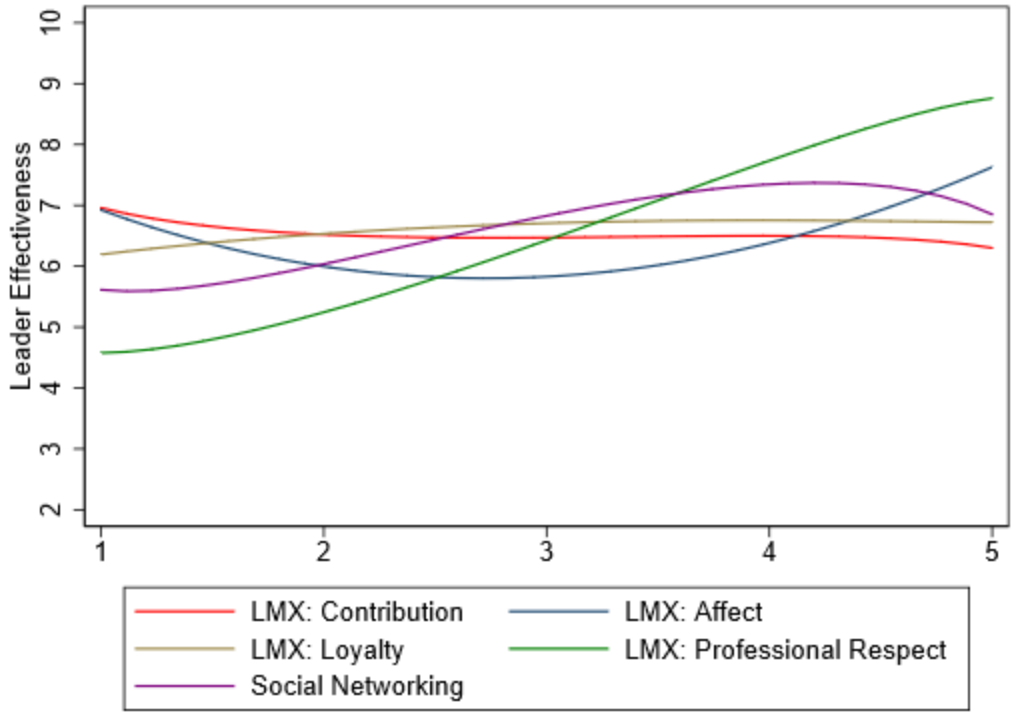


Figure A20.1. Judgment policy by leadership quality for Case 20 based on observed leader-effectiveness scores.

Case 20 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

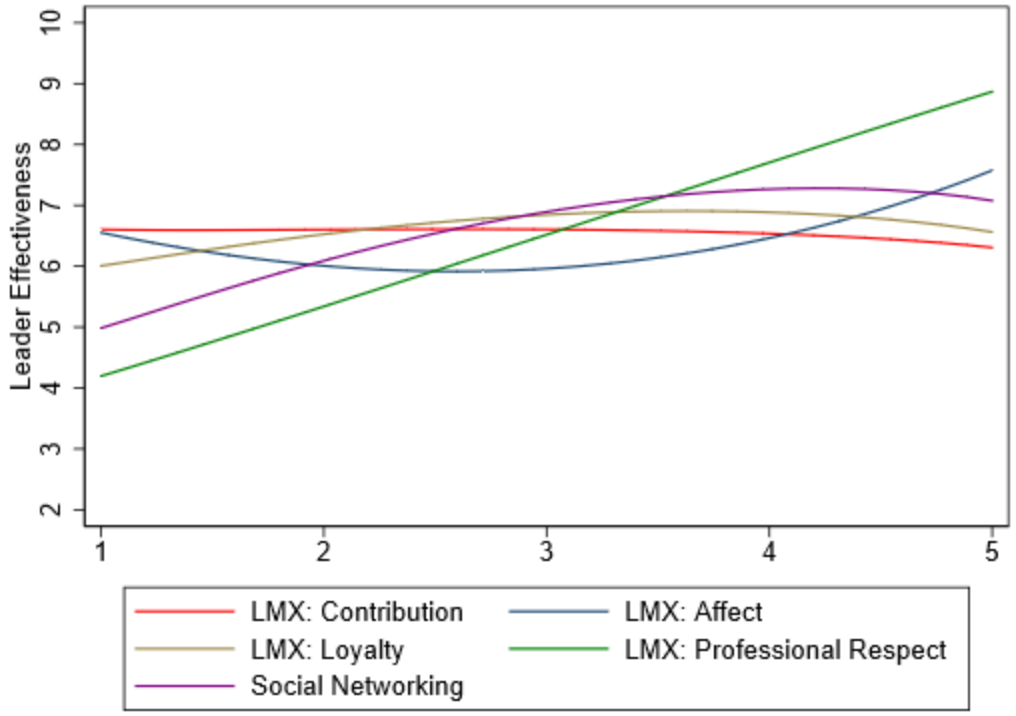


Figure A20.2. Judgment policy by leadership quality for Case 20 based on predicted leader-effectiveness scores from quadric regression.

Table A21.1

Case 21 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.05	0.87	0.06	.956	-1.74	1.83
contribution2	0.01	0.15	0.08	.936	-0.29	0.31
loyal	-1.17	0.93	-1.26	.219	-3.08	0.74
loyal2	0.23	0.15	1.51	.142	-0.08	0.54
affect	-0.16	0.86	-0.18	.856	-1.93	1.61
affect2	0.04	0.14	0.28	.784	-0.26	0.34
respect	1.35	0.84	1.62	.118	-0.37	3.08
respect2	-0.02	0.14	-0.13	.900	-0.30	0.27
network	2.11	0.90	2.35	.027	0.26	3.96
network2	-0.33	0.15	-2.23	.035	-0.63	-0.03

Note. $F_{(10, 26)} = 57.52$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A21.2

Case 21 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.16	1.12	.270	0.11
loyal	0.26	0.18	1.47	.152	0.15
affect	0.12	0.17	0.69	.492	0.07
respect	1.27	0.16	7.90	.000	0.75
network	0.14	0.18	0.78	.443	0.07

Note. $F_{(5, 31)} = 110.02$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 21 Observed Judgment Policy of School Building Leader Effectiveness

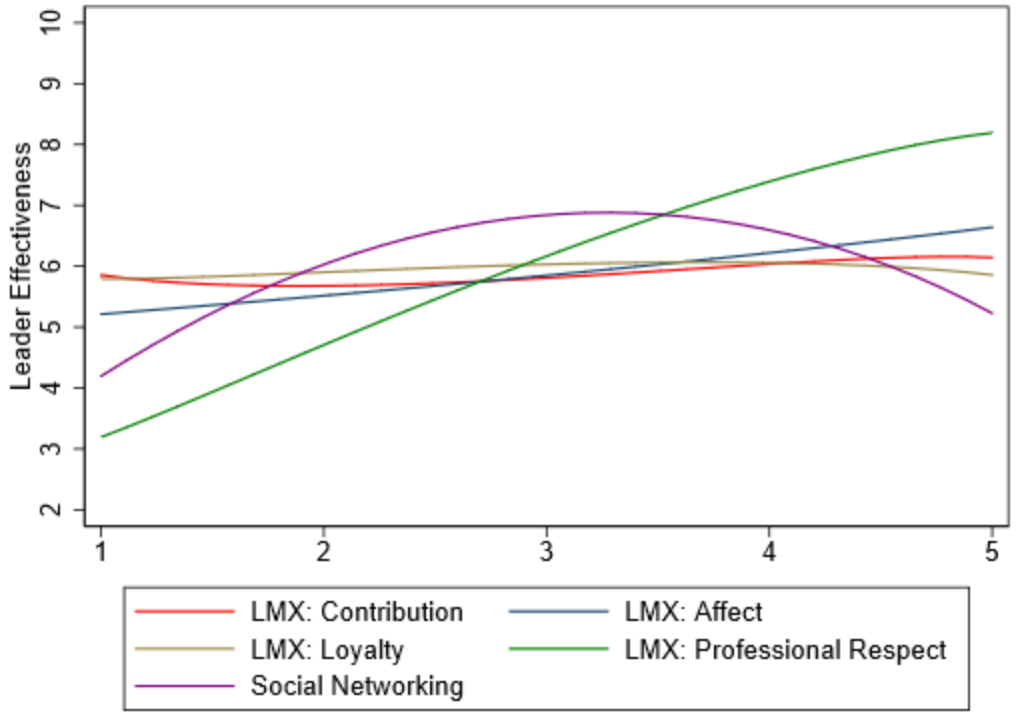


Figure A21.1. Judgment policy by leadership quality for Case 21 based on observed leader-effectiveness scores.

Case 21 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

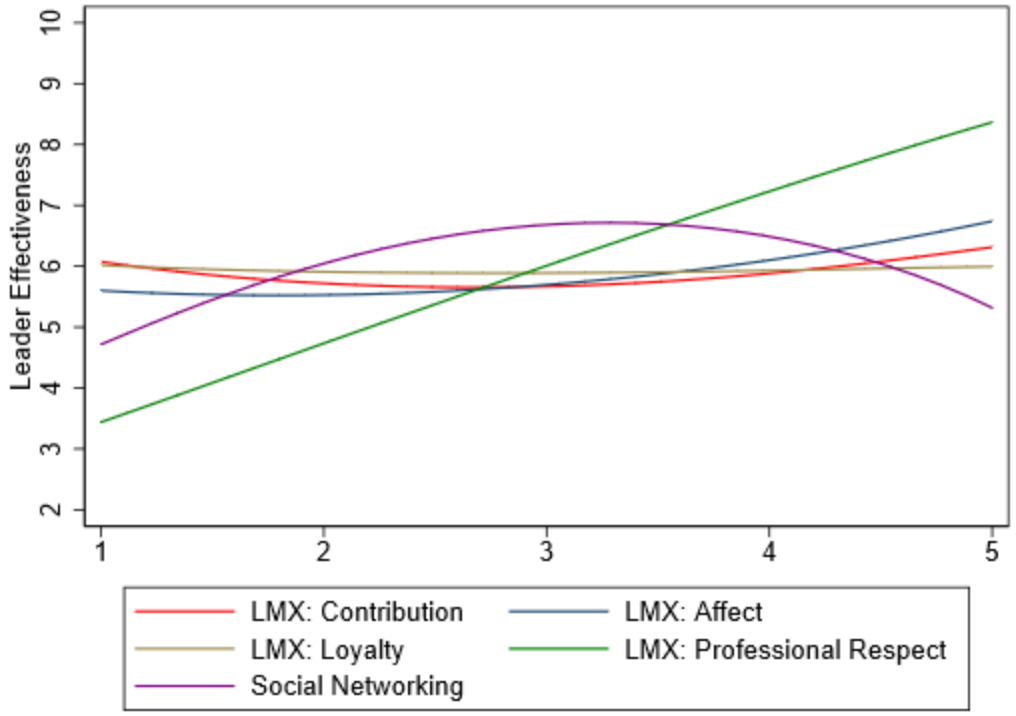


Figure A21.2. Judgment policy by leadership quality for Case 21 based on predicted leader-effectiveness scores from quadric regression.

Table A22.1

Case 22 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.57	1.13	0.51	.617	-1.76	2.91
contribution2	-0.05	0.19	-0.24	.808	-0.44	0.34
Loyal	-1.86	1.21	-1.54	.137	-4.35	0.63
loyal2	0.36	0.20	1.83	.079	-0.04	0.76
affect	1.03	1.12	0.92	.368	-1.28	3.34
affect2	-0.16	0.19	-0.86	.397	-0.55	0.23
respect	0.14	1.09	0.13	.900	-2.11	2.39
respect2	0.11	0.18	0.60	.551	-0.26	0.48
network	2.72	1.17	2.32	.028	0.31	5.14
network2	-0.38	0.19	-2.00	.056	-0.77	0.01

Note. $F_{(10, 26)} = 39.59$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A22.2

Case 22 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.38	0.22	1.74	.091	0.24
loyal	0.38	0.23	1.62	.116	0.22
affect	0.13	0.22	0.59	.559	0.08
respect	0.84	0.21	3.97	.000	0.52
network	0.45	0.24	1.88	.069	0.25

Note. $F_{(5, 31)} = 74.01$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 22 Observed Judgment Policy of School Building Leader Effectiveness

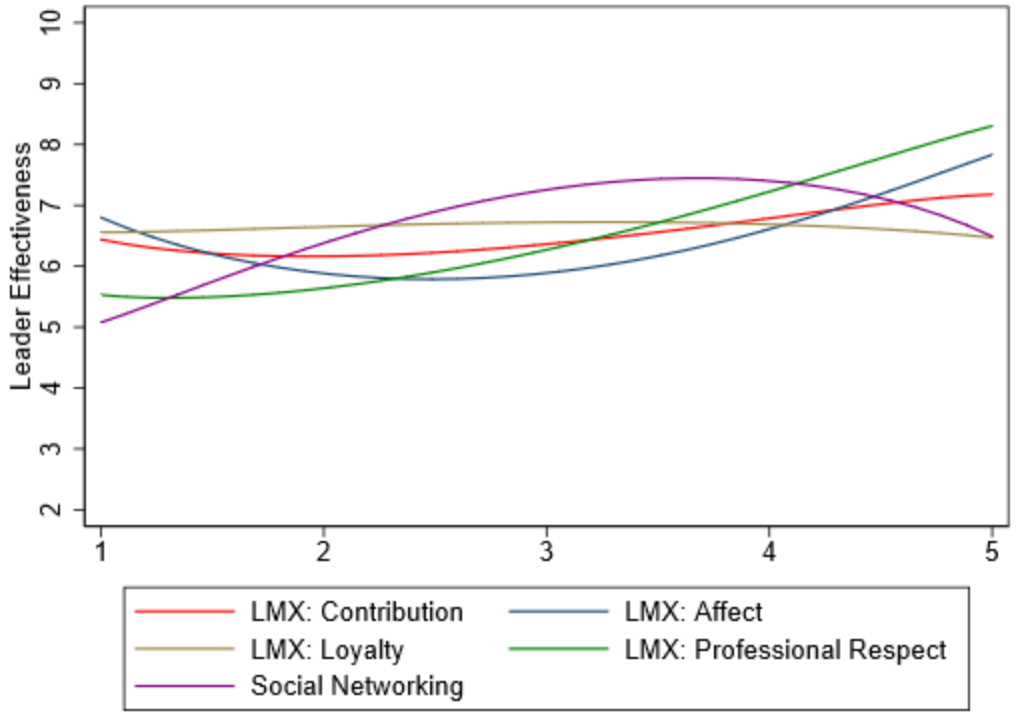


Figure A22.1. Judgment policy by leadership quality for Case 22 based on observed leader-effectiveness scores.

Case 22 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

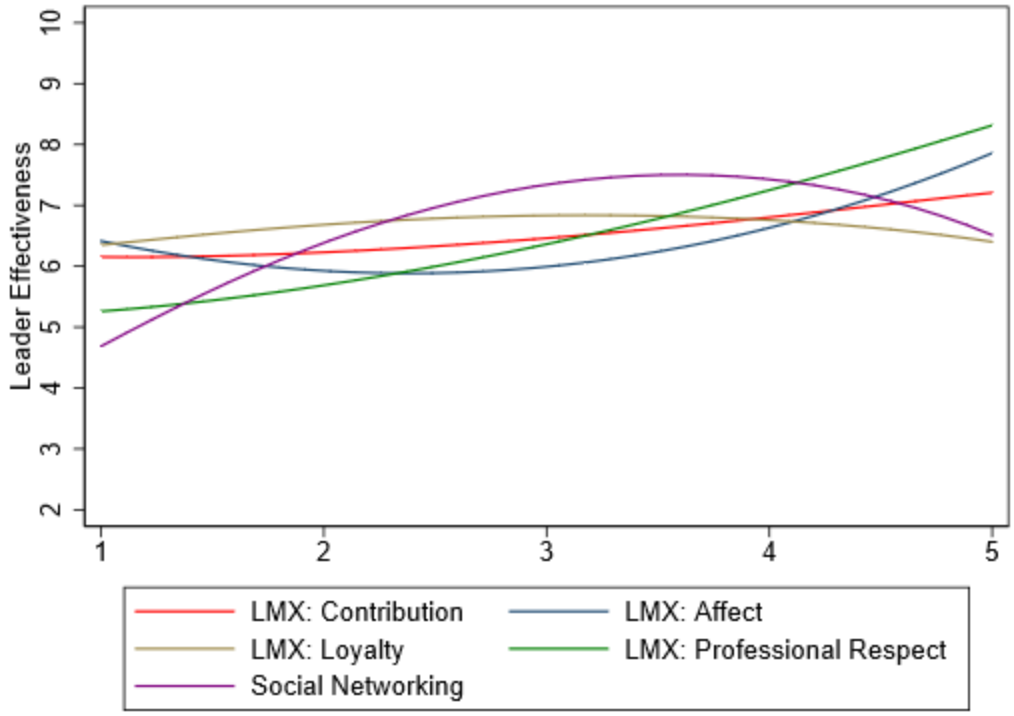


Figure A22.2. Judgment policy by leadership quality for Case 22 based on predicted leader-effectiveness scores from quadric regression.

Table A23.1

Case 23 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.06	0.98	1.08	.289	-0.95	3.08
contribution2	-0.11	0.16	-0.70	.490	-0.45	0.22
loyal	-0.85	1.05	-0.81	.425	-3.01	1.31
loyal2	0.16	0.17	0.93	.362	-0.19	0.51
affect	2.16	0.97	2.22	.036	0.16	4.16
affect2	-0.35	0.16	-2.16	.040	-0.69	-0.02
respect	0.52	0.95	0.55	.589	-1.43	2.46
respect2	0.00	0.16	-0.01	.994	-0.32	0.32
network	1.26	1.02	1.24	.225	-0.83	3.35
network2	-0.19	0.17	-1.16	.256	-0.53	0.15

Note. $F_{(10, 26)} = 56.13$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A23.2

Case 23 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.56	0.20	2.80	.009	0.47
loyal	0.30	0.21	1.38	.179	0.24
affect	0.30	0.20	1.48	.149	0.25
respect	0.76	0.20	3.86	.001	0.63
network	0.33	0.22	1.52	.139	0.25

Note. $F_{(5, 31)} = 91.46$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 23 Observed Judgment Policy of School Building Leader Effectiveness

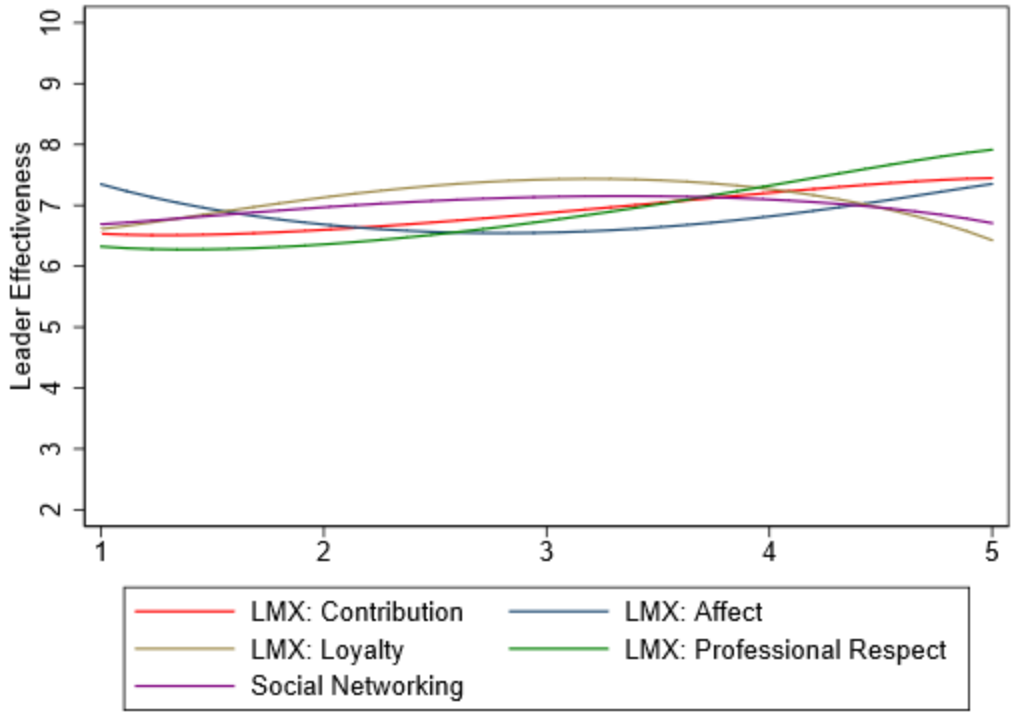


Figure A23.1. Judgment policy by leadership quality for Case 23 based on observed leader-effectiveness scores.

Case 23 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

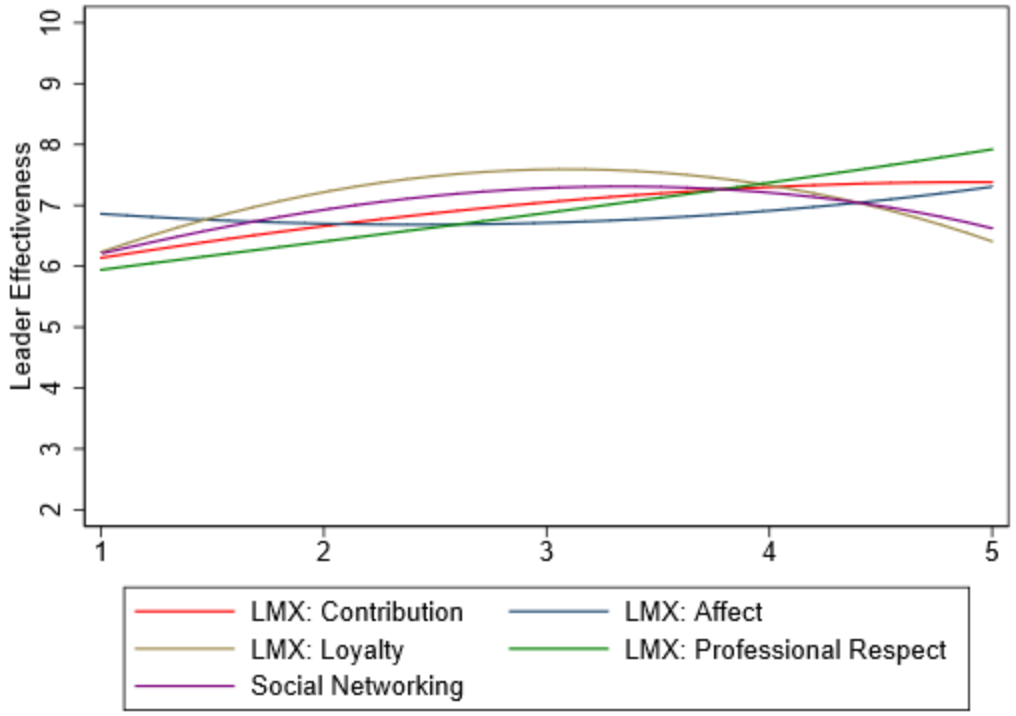


Figure A23.2. Judgment policy by leadership quality for Case 23 based on predicted leader-effectiveness scores from quadric regression.

Table A24.1

Case 24 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.85	1.35	1.37	.181	-0.92	4.62
contribution2	-0.22	0.23	-0.96	.347	-0.68	0.25
loyal	-0.87	1.44	-0.61	.549	-3.83	2.09
loyal2	0.22	0.23	0.94	.353	-0.26	0.70
affect	1.78	1.34	1.33	.194	-0.96	4.53
affect2	-0.27	0.22	-1.19	.246	-0.73	0.20
respect	0.05	1.30	0.03	.973	-2.63	2.72
respect2	0.06	0.22	0.26	.796	-0.39	0.50
network	-1.77	1.40	-1.27	.217	-4.64	1.10
network2	0.30	0.23	1.31	.200	-0.17	0.76

Note. $F_{(10, 26)} = 11.09$ ($p < .001$), $R^2 = .81$, Adjusted $R^2 = .74$

Table A24.2

Case 24 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.47	0.25	1.89	.069	0.27
loyal	0.40	0.27	1.50	.145	0.22
affect	0.18	0.25	0.71	.484	0.10
respect	0.27	0.24	1.10	.278	0.15
network	0.03	0.27	0.11	.915	0.02

Note. $F_{(5, 31)} = 21.65$ ($p < .001$), $R^2 = .78$, Adjusted $R^2 = .74$

Case 24 Observed Judgment Policy of School Building Leader Effectiveness

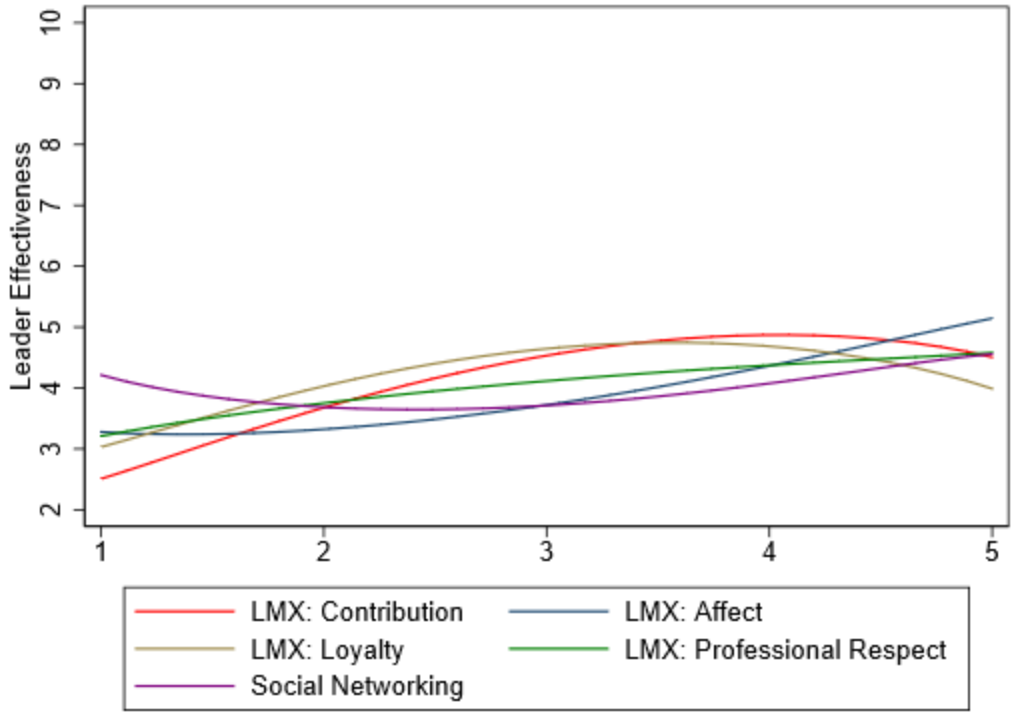


Figure A24.1. Judgment policy by leadership quality for Case 24 based on observed leader-effectiveness scores.

Case 24 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

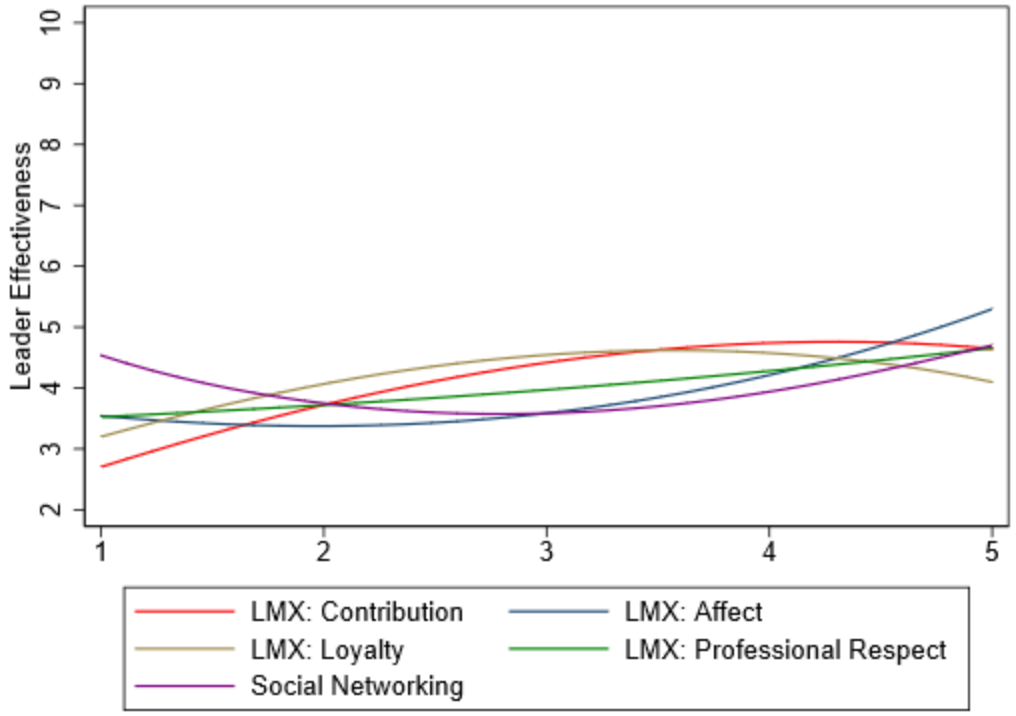


Figure A24.2. Judgment policy by leadership quality for Case 24 based on predicted leader-effectiveness scores from quadric regression.

Table A25.1

Case 25 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.18	0.92	0.19	.850	-1.71	2.07
contribution2	0.00	0.15	-0.02	.984	-0.32	0.31
loyal	0.38	0.98	0.38	.704	-1.64	2.40
loyal2	0.00	0.16	0.01	.989	-0.33	0.33
affect	0.21	0.91	0.24	.816	-1.66	2.09
affect2	-0.02	0.15	-0.15	.883	-0.34	0.29
respect	1.39	0.89	1.57	.129	-0.43	3.22
respect2	-0.15	0.15	-1.05	.304	-0.46	0.15
network	0.83	0.95	0.87	.392	-1.13	2.79
network2	-0.13	0.15	-0.83	.412	-0.45	0.19

Note. $F_{(10, 26)} = 42.60$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A25.2

Case 25 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.28	0.17	1.69	.102	0.26
loyal	0.53	0.18	2.91	.007	0.46
affect	0.22	0.17	1.30	.202	0.20
respect	0.62	0.17	3.79	.001	0.57
network	0.18	0.18	0.99	.332	0.15

Note. $F_{(5, 31)} = 87.67$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 25 Observed Judgment Policy of School Building Leader Effectiveness

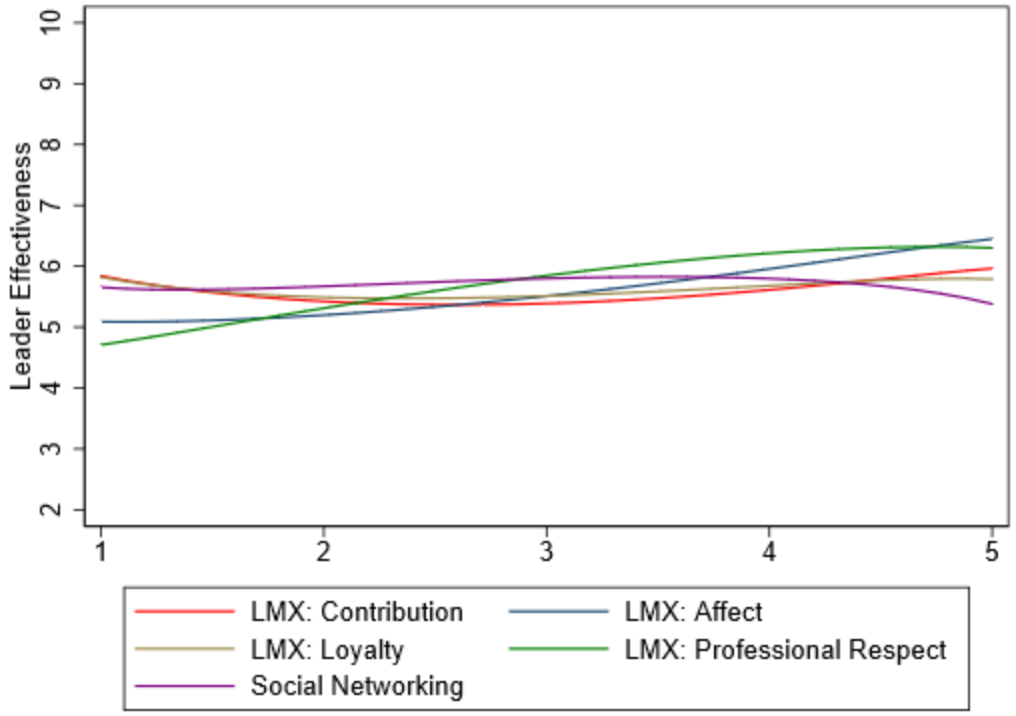


Figure A25.1. Judgment policy by leadership quality for Case 25 based on observed leader-effectiveness scores.

Case 25 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

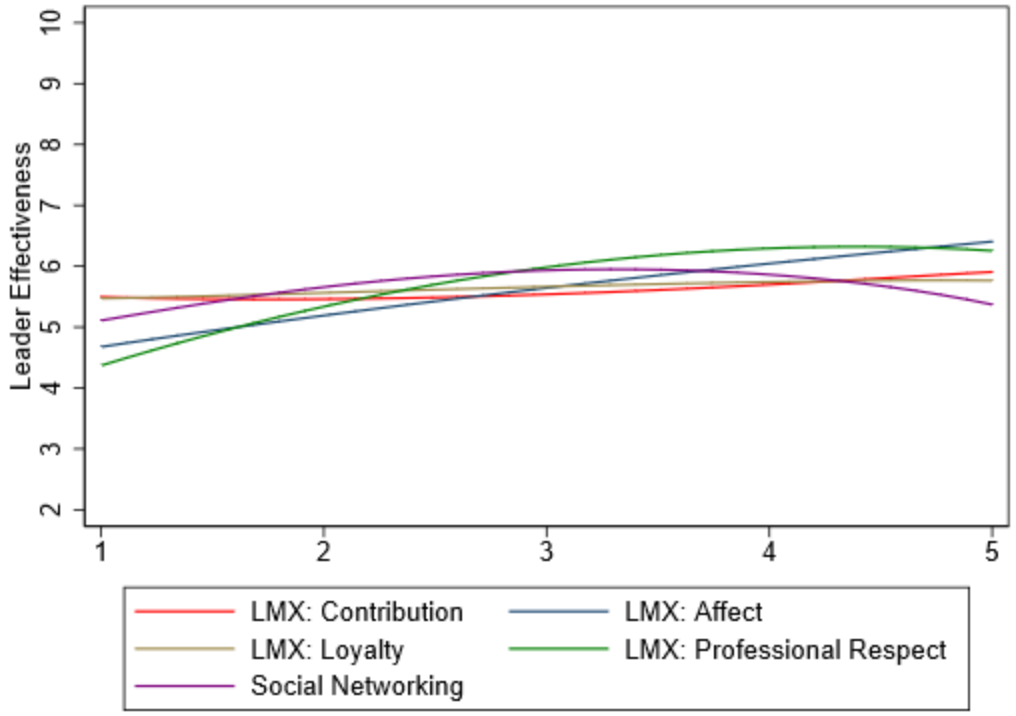


Figure A25.2. Judgment policy by leadership quality for Case 25 based on predicted leader-effectiveness scores from quadric regression.

Table A26.1

Case 26 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.11	0.71	0.16	.875	-1.34	1.57
contribution2	-0.01	0.12	-0.11	.914	-0.26	0.23
loyal	-0.98	0.76	-1.30	.206	-2.54	0.57
loyal2	0.18	0.12	1.49	.148	-0.07	0.44
affect	1.68	0.70	2.39	.024	0.24	3.13
affect2	-0.28	0.12	-2.41	.024	-0.53	-0.04
respect	0.49	0.68	0.72	.481	-0.92	1.90
respect2	-0.04	0.11	-0.33	.745	-0.27	0.20
network	1.18	0.73	1.61	.119	-0.33	2.69
network2	-0.12	0.12	-0.99	.332	-0.36	0.13

Note. $F_{(10, 26)} = 46.51$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A26.2

Case 26 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.13	0.14	0.88	.385	0.13
loyal	0.23	0.15	1.52	.139	0.22
affect	0.13	0.14	0.87	.390	0.13
respect	0.39	0.14	2.83	.008	0.39
network	0.59	0.15	3.84	.001	0.54

Note. $F_{(5, 31)} = 79.00$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 26 Observed Judgment Policy of School Building Leader Effectiveness

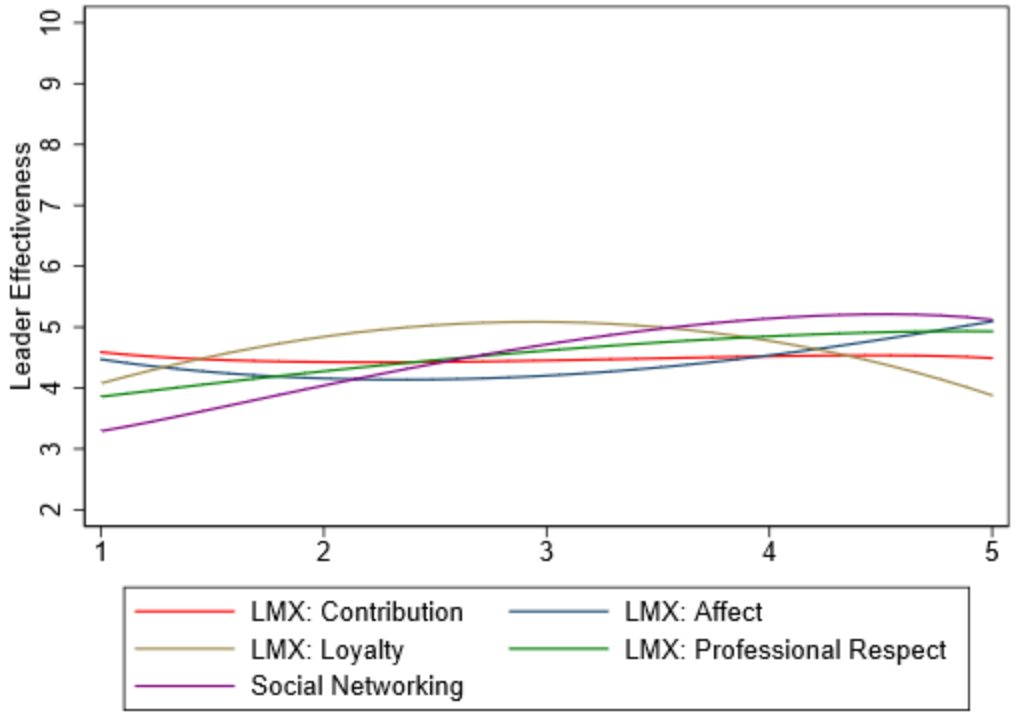


Figure A26.1. Judgment policy by leadership quality for Case 26 based on observed leader-effectiveness scores.

Case 26 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

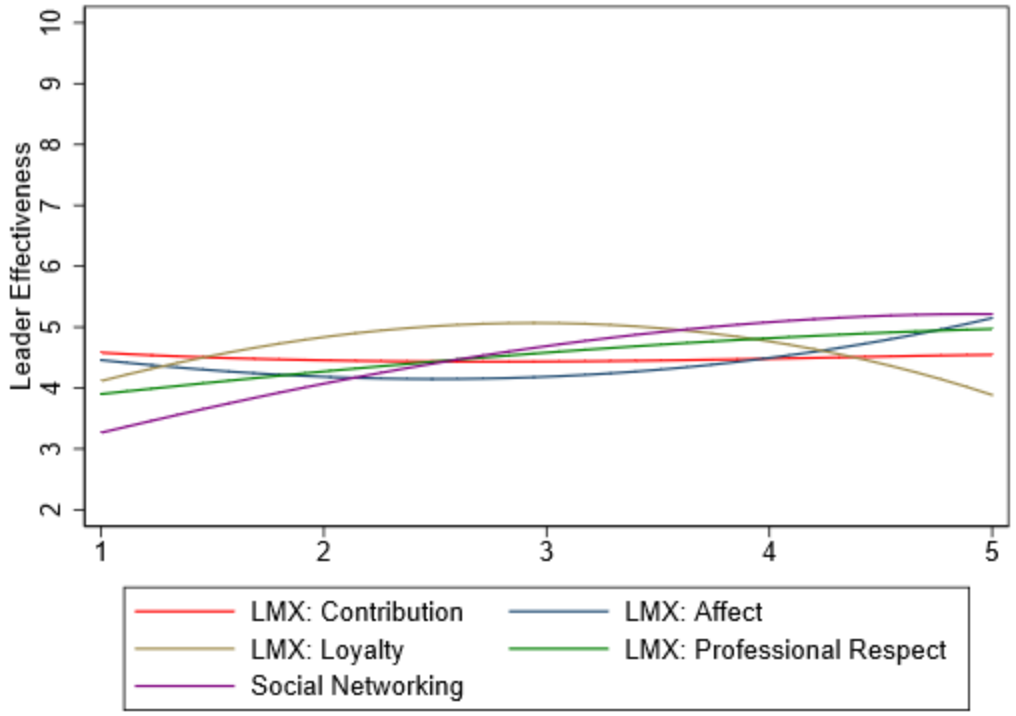


Figure A26.2. Judgment policy by leadership quality for Case 26 based on predicted leader-effectiveness scores from quadric regression.

Table A27.1

Case 27 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.92	0.53	1.72	.097	-0.18	2.01
contribution2	-0.16	0.09	-1.76	.090	-0.34	0.03
loyal	-0.62	0.57	-1.10	.283	-1.79	0.55
loyal2	0.12	0.09	1.29	.210	-0.07	0.31
affect	0.31	0.53	0.59	.559	-0.77	1.40
affect2	-0.07	0.09	-0.78	.441	-0.25	0.11
respect	0.74	0.51	1.44	.163	-0.32	1.79
respect2	-0.07	0.09	-0.87	.394	-0.25	0.10
network	1.68	0.55	3.05	.005	0.55	2.81
network2	-0.18	0.09	-1.97	.060	-0.36	0.01

Note. $F_{(10, 26)} = 108.48$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A27.2

Case 27 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.12	1.16	.256	0.16
loyal	0.24	0.13	1.94	.061	0.27
affect	0.08	0.12	0.65	.519	0.09
respect	0.46	0.11	3.97	.000	0.52
network	0.77	0.13	6.03	.000	0.80

Note. $F_{(5, 31)} = 153.85$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .96$

Case 27 Observed Judgment Policy of School Building Leader Effectiveness

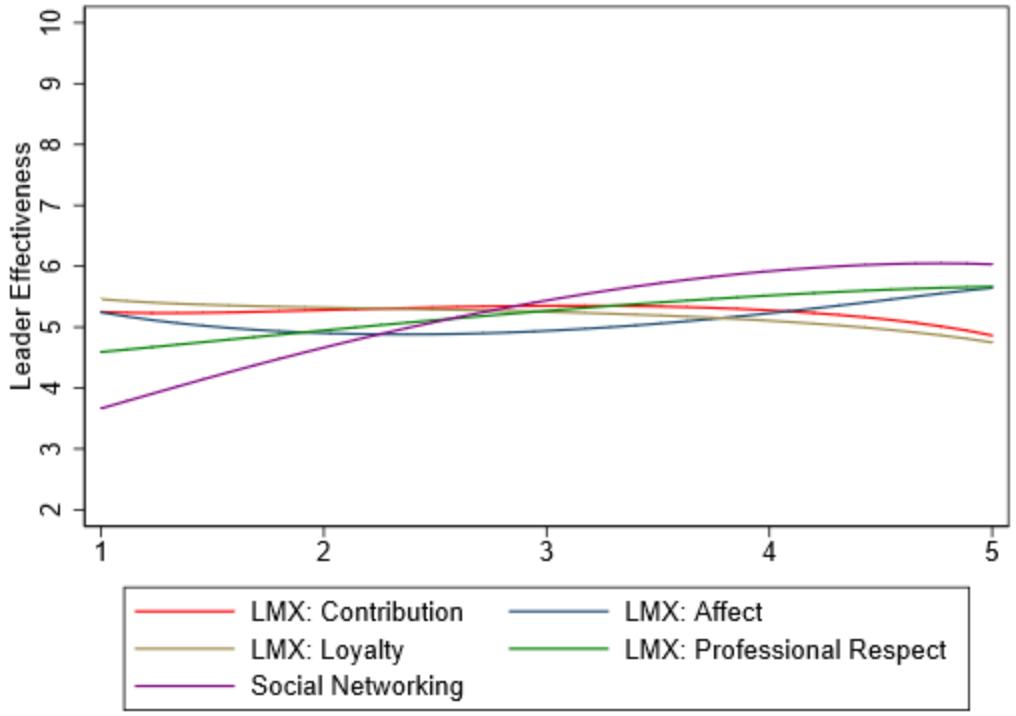


Figure A27.1. Judgment policy by leadership quality for Case 27 based on observed leader-effectiveness scores.

Case 27 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

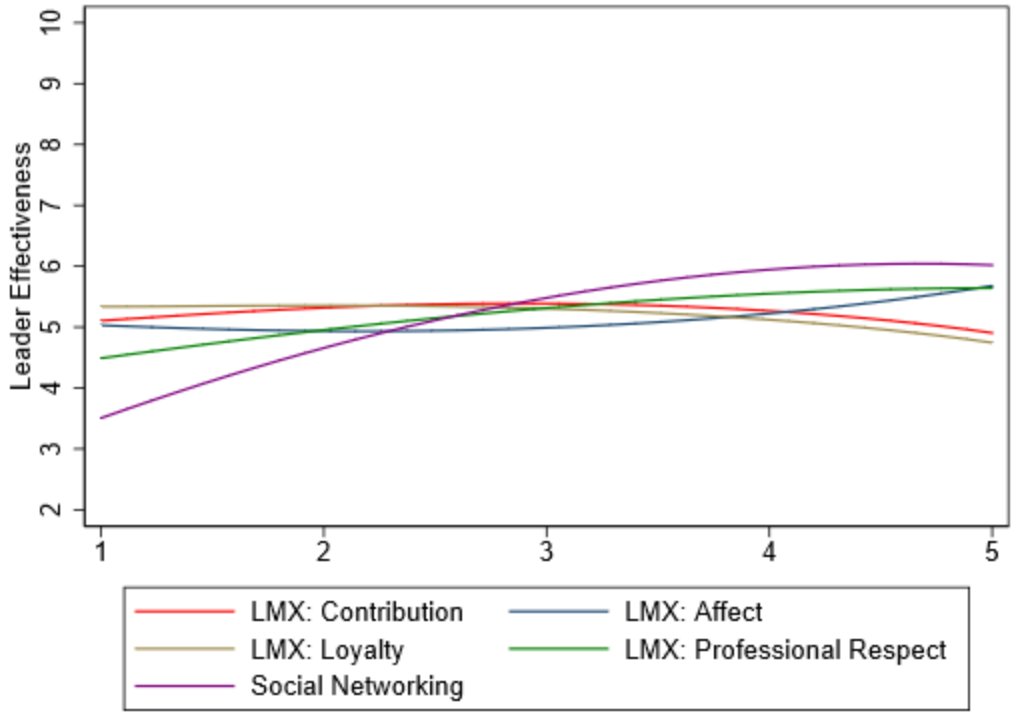


Figure A27.2. Judgment policy by leadership quality for Case 27 based on predicted leader-effectiveness scores from quadric regression.

Table A28.1

Case 28 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.42	1.43	0.99	.329	-1.52	4.36
contribution2	-0.24	0.24	-0.99	.330	-0.73	0.25
loyal	0.23	1.53	0.15	.880	-2.91	3.37
loyal2	0.05	0.25	0.21	.836	-0.46	0.56
affect	2.81	1.42	1.98	.058	-0.10	5.72
affect2	-0.50	0.24	-2.10	.046	-0.99	-0.01
respect	1.16	1.38	0.84	.409	-1.68	3.99
respect2	-0.16	0.23	-0.70	.492	-0.63	0.31
network	-0.40	1.48	-0.27	.788	-3.44	2.64
network2	-0.04	0.24	-0.18	.857	-0.54	0.45

Note. $F_{(10, 26)} = 19.64$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .84$

Table A28.2

Case 28 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.31	0.30	1.02	.315	0.18
loyal	0.88	0.32	2.72	.011	0.48
affect	0.27	0.31	0.88	.387	0.15
respect	0.63	0.30	2.14	.040	0.36
network	-0.24	0.33	-0.72	.476	-0.12

Note. $F_{(5, 31)} = 28.71$ ($p < .001$), $R^2 = .82$, Adjusted $R^2 = .79$

Case 28 Observed Judgment Policy of School Building Leader Effectiveness

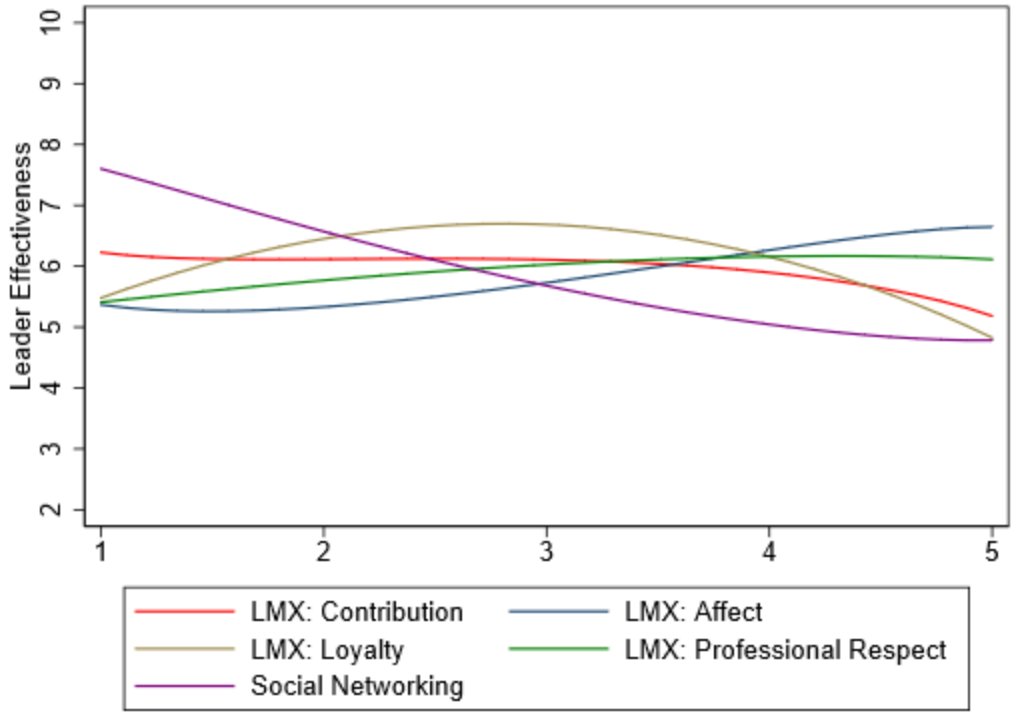


Figure A28.1. Judgment policy by leadership quality for Case 28 based on observed leader-effectiveness scores.

Case 28 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

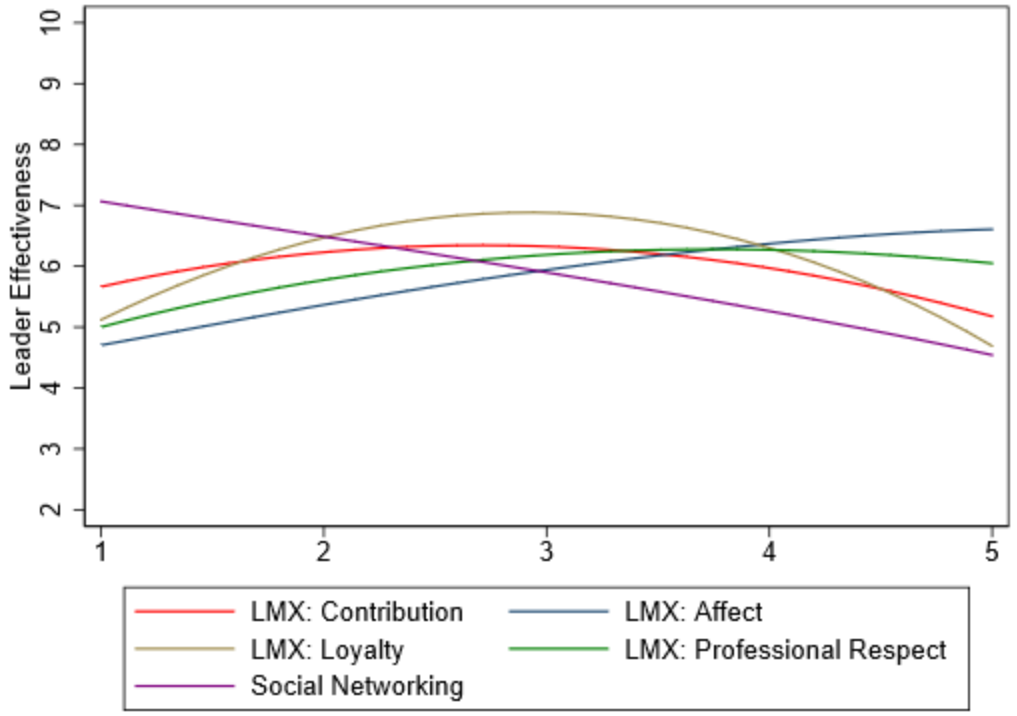


Figure A28.2. Judgment policy by leadership quality for Case 28 based on predicted leader-effectiveness scores from quadric regression.

Table A29.1

Case 29 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.02	1.34	-0.01	.989	-2.77	2.73
contribution2	0.04	0.22	0.16	.872	-0.42	0.50
loyal	1.34	1.43	0.94	.357	-1.60	4.28
loyal2	-0.18	0.23	-0.77	.449	-0.66	0.30
affect	2.63	1.33	1.99	.058	-0.09	5.36
affect2	-0.46	0.22	-2.08	.048	-0.92	0.00
respect	1.38	1.29	1.07	.296	-1.28	4.03
respect2	-0.20	0.21	-0.96	.347	-0.64	0.23
network	1.06	1.38	0.77	.450	-1.78	3.91
network2	-0.10	0.23	-0.44	.664	-0.56	0.36

Note. $F_{(10, 26)} = 53.00$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Table A29.2

Case 29 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.51	0.29	1.77	.087	0.43
loyal	0.60	0.31	1.95	.060	0.49
affect	0.30	0.29	1.01	.323	0.25
respect	0.65	0.28	2.30	.029	0.54
network	0.89	0.32	2.84	.008	0.68

Note. $F_{(5, 31)} = 76.44$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Case 29 Observed Judgment Policy of School Building Leader Effectiveness

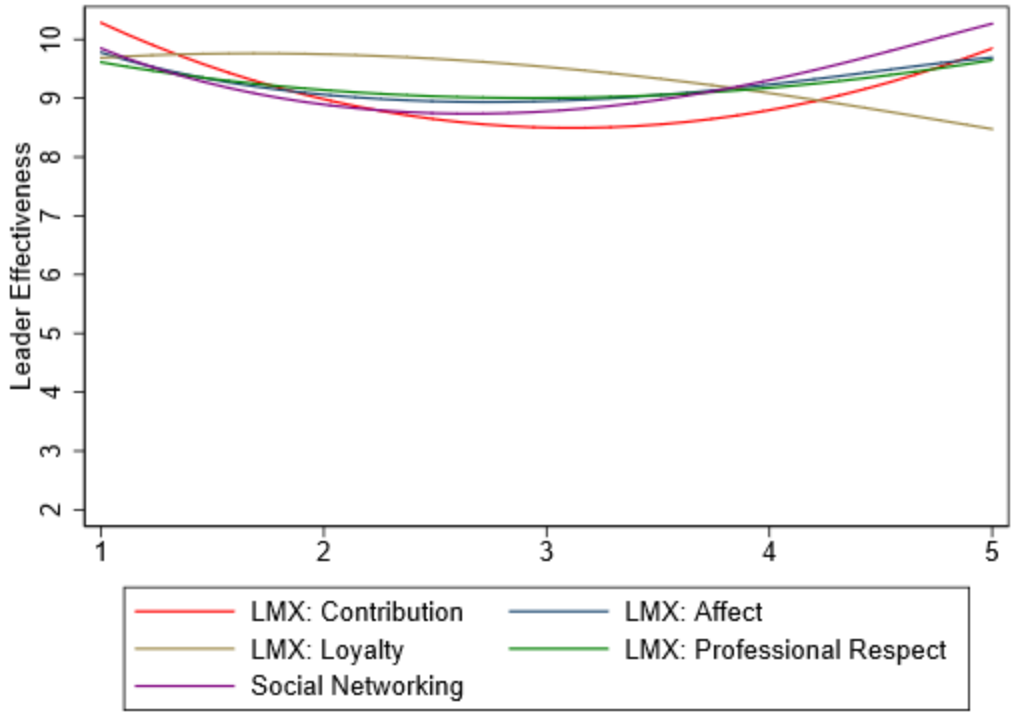


Figure A29.1. Judgment policy by leadership quality for Case 29 based on observed leader-effectiveness scores.

Case 29 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

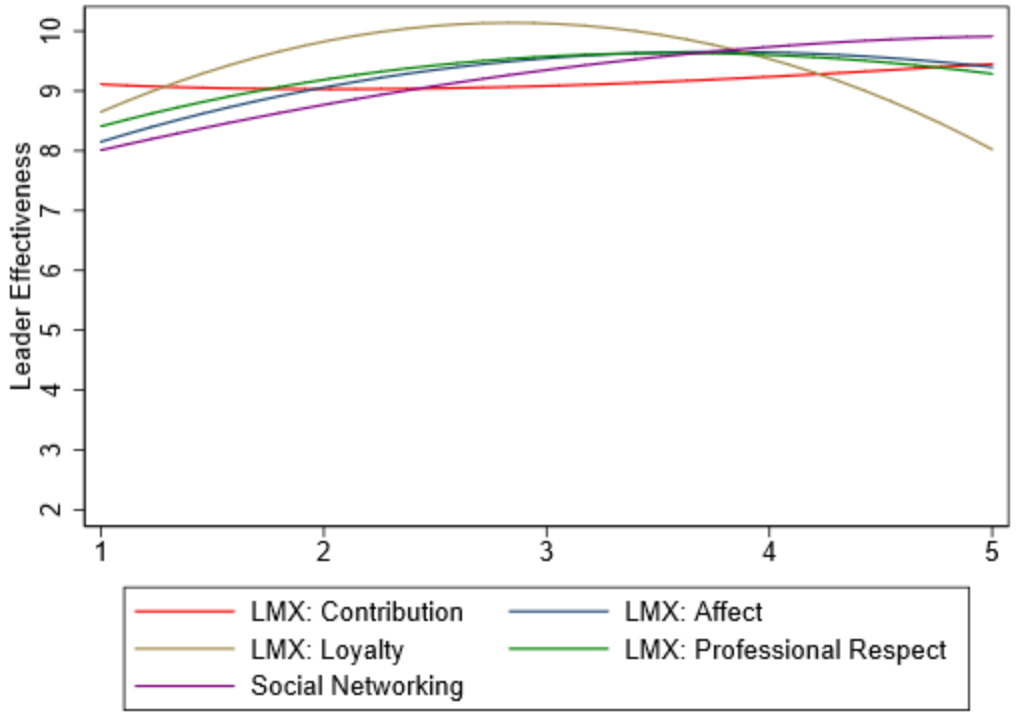


Figure A29.2. Judgment policy by leadership quality for Case 29 based on predicted leader-effectiveness scores from quadric regression.

Table A30.1

Case 30 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.73	0.91	-0.80	.433	-2.61	1.15
contribution2	0.16	0.15	1.04	.309	-0.16	0.47
loyal	-1.09	0.98	-1.11	.277	-3.10	0.92
loyal2	0.17	0.16	1.06	.298	-0.16	0.49
affect	0.76	0.91	0.84	.408	-1.10	2.63
affect2	-0.10	0.15	-0.66	.515	-0.41	0.21
respect	2.24	0.88	2.54	.018	0.42	4.06
respect2	-0.27	0.15	-1.86	.074	-0.57	0.03
network	1.51	0.95	1.60	.122	-0.43	3.46
network2	-0.17	0.15	-1.13	.267	-0.49	0.14

Note. $F_{(10, 26)} = 45.02$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .92$

Table A30.2

Case 30 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.30	0.18	1.71	.097	0.22
loyal	0.05	0.19	0.25	.807	0.03
affect	0.27	0.18	1.50	.144	0.19
respect	0.72	0.17	4.16	.000	0.52
network	0.55	0.19	2.84	.008	0.36

Note. $F_{(5, 31)} = 82.84$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 30 Observed Judgment Policy of School Building Leader Effectiveness

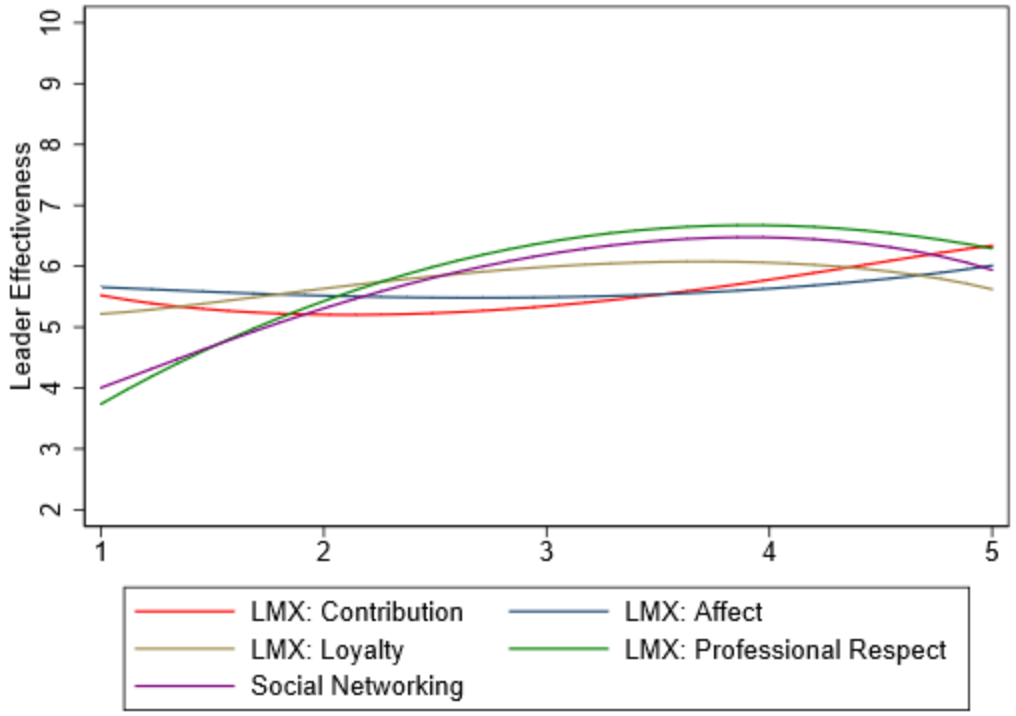


Figure A30.1. Judgment policy by leadership quality for Case 30 based on observed leader-effectiveness scores.

Case 30 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

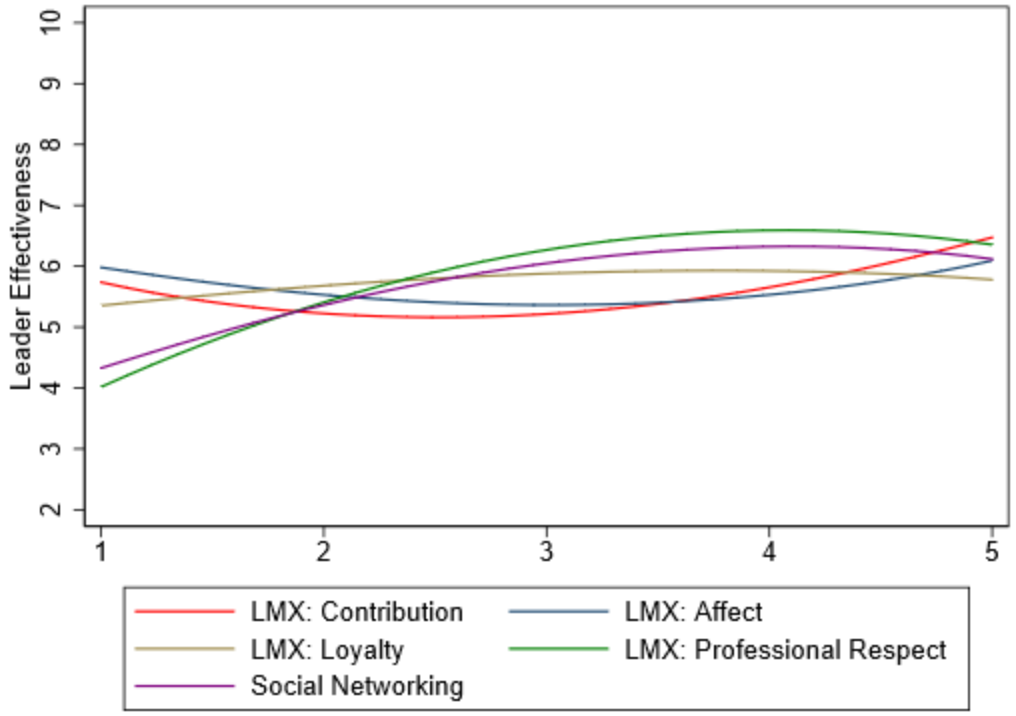


Figure A30.2. Judgment policy by leadership quality for Case 30 based on predicted leader-effectiveness scores from quadric regression.

Table A31.1

Case 31 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.91	1.02	1.86	.074	-0.20	4.01
contribution2	-0.28	0.17	-1.65	.111	-0.63	0.07
loyal	-0.64	1.09	-0.59	.562	-2.89	1.61
loyal2	0.16	0.18	0.88	.388	-0.21	0.52
affect	2.14	1.01	2.11	.044	0.06	4.23
affect2	-0.36	0.17	-2.13	.042	-0.71	-0.01
respect	0.62	0.99	0.63	.533	-1.41	2.65
respect2	-0.04	0.16	-0.24	.815	-0.37	0.30
network	-0.58	1.06	-0.55	.589	-2.76	1.60
network2	0.07	0.17	0.39	.697	-0.29	0.42

Note. $F_{(10, 26)} = 29.82$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A31.2

Case 31 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.36	0.21	1.74	.092	0.28
loyal	0.46	0.22	2.06	.048	0.35
affect	0.22	0.21	1.02	.315	0.17
respect	0.58	0.20	2.82	.008	0.45
network	0.06	0.23	0.28	.778	0.05

Note. $F_{(5, 31)} = 47.85$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 31 Observed Judgment Policy of School Building Leader Effectiveness

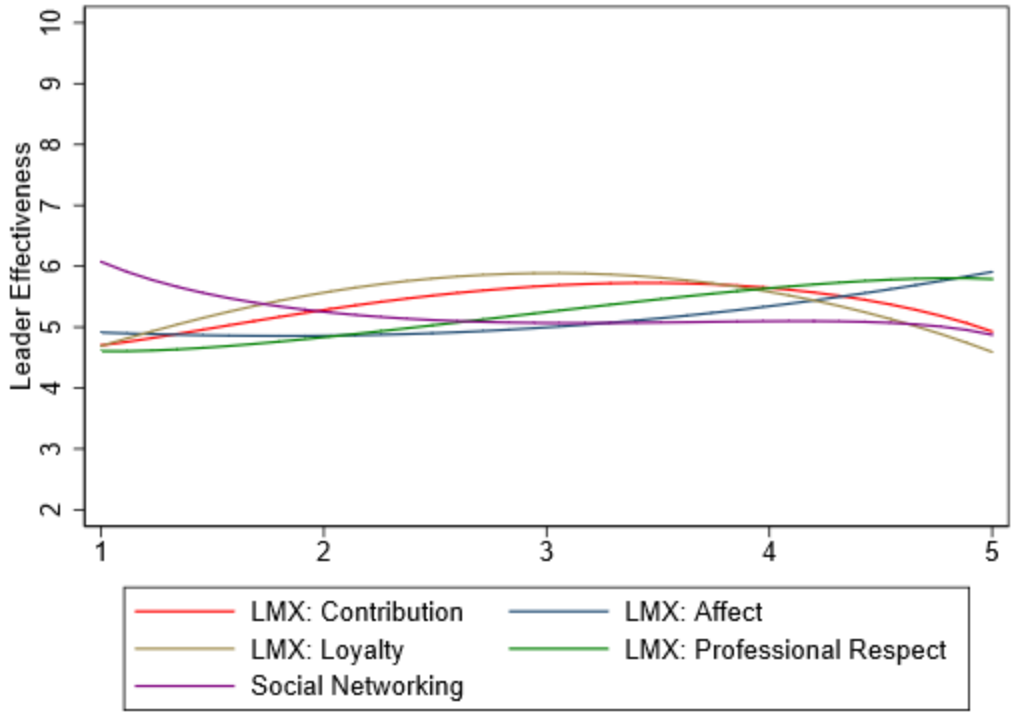


Figure A31.1. Judgment policy by leadership quality for Case 31 based on observed leader-effectiveness scores.

Case 31 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

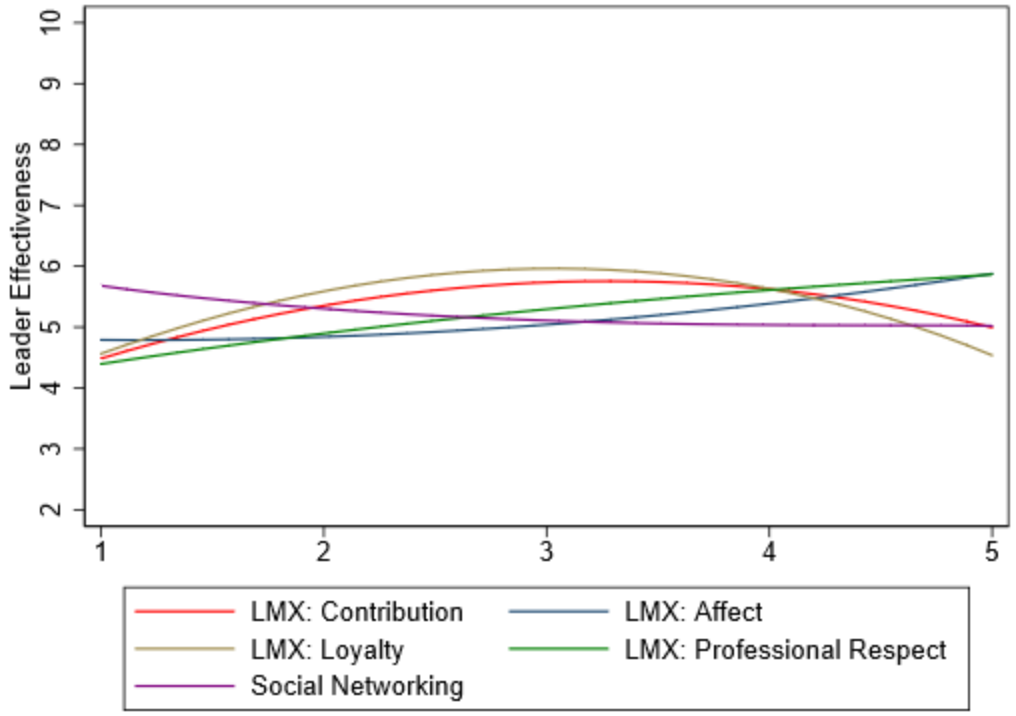


Figure A31.2. Judgment policy by leadership quality for Case 31 based on predicted leader-effectiveness scores from quadric regression.

Table A32.1

Case 32 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.83	0.78	1.06	.298	-0.77	2.43
contribution2	-0.10	0.13	-0.75	.458	-0.37	0.17
loyal	-2.19	0.83	-2.63	.014	-3.90	-0.48
loyal2	0.37	0.14	2.74	.011	0.09	0.65
affect	1.16	0.77	1.50	.147	-0.43	2.75
affect2	-0.20	0.13	-1.53	.137	-0.47	0.07
respect	1.45	0.75	1.93	.065	-0.10	3.00
respect2	-0.10	0.12	-0.80	.431	-0.36	0.16
network	1.72	0.81	2.13	.042	0.06	3.39
network2	-0.27	0.13	-2.02	.054	-0.54	0.00

Note. $F_{(10, 26)} = 63.22$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A32.2

Case 32 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.16	2.22	.034	0.29
loyal	0.18	0.18	1.04	.308	0.14
affect	0.13	0.17	0.76	.453	0.10
respect	0.96	0.16	5.97	.000	0.77
network	0.24	0.18	1.32	.196	0.17

Note. $F_{(5, 31)} = 96.66$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 32 Observed Judgment Policy of School Building Leader Effectiveness

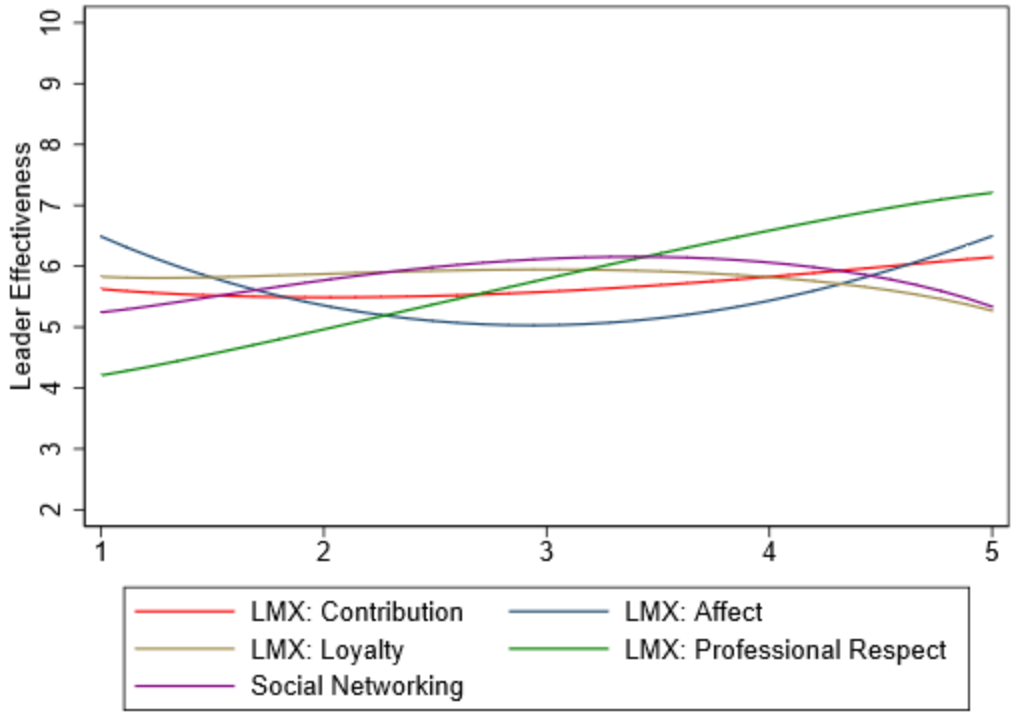


Figure A32.1. Judgment policy by leadership quality for Case 32 based on observed leader-effectiveness scores.

Case 32 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

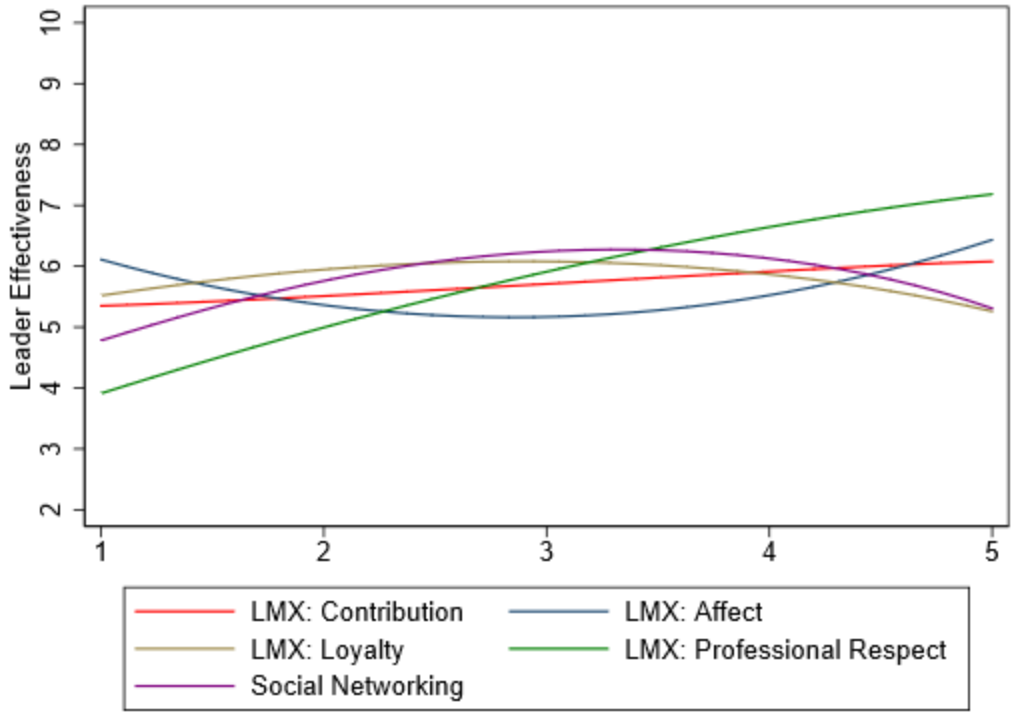


Figure A32.2. Judgment policy by leadership quality for Case 32 based on predicted leader-effectiveness scores from quadric regression.

Table A33.1

Case 33 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.58	0.95	-0.61	.549	-2.54	1.38
contribution2	0.13	0.16	0.79	.436	-0.20	0.45
loyal	-0.03	1.02	-0.03	.976	-2.13	2.06
loyal2	0.05	0.17	0.30	.766	-0.29	0.39
affect	1.36	0.94	1.44	.161	-0.58	3.30
affect2	-0.23	0.16	-1.43	.164	-0.55	0.10
respect	1.53	0.92	1.66	.109	-0.36	3.42
respect2	-0.19	0.15	-1.27	.216	-0.51	0.12
network	0.50	0.99	0.50	.619	-1.53	2.53
network2	-0.05	0.16	-0.28	.780	-0.38	0.28

Note. $F_{(10, 26)} = 33.22$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A33.2

Case 33 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.18	1.46	.155	0.22
loyal	0.39	0.19	2.03	.052	0.31
affect	0.14	0.18	0.78	.439	0.12
respect	0.52	0.18	2.98	.006	0.43
network	0.36	0.20	1.84	.075	0.27

Note. $F_{(5, 31)} = 64.28$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 33 Observed Judgment Policy of School Building Leader Effectiveness

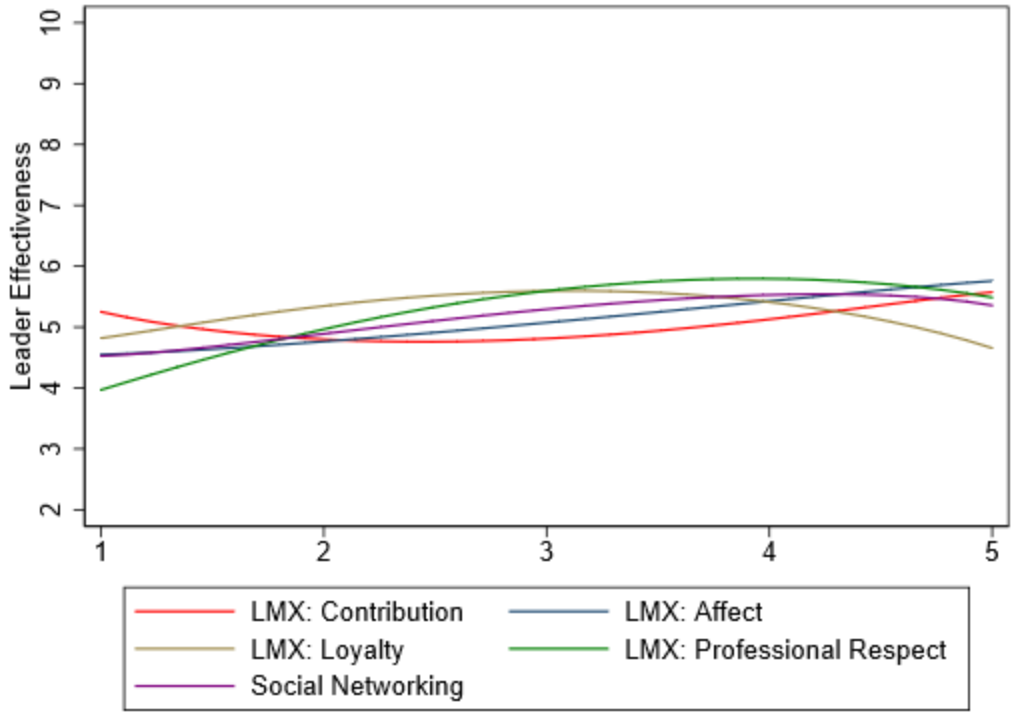


Figure A33.1. Judgment policy by leadership quality for Case 33 based on observed leader-effectiveness scores.

Case 33 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

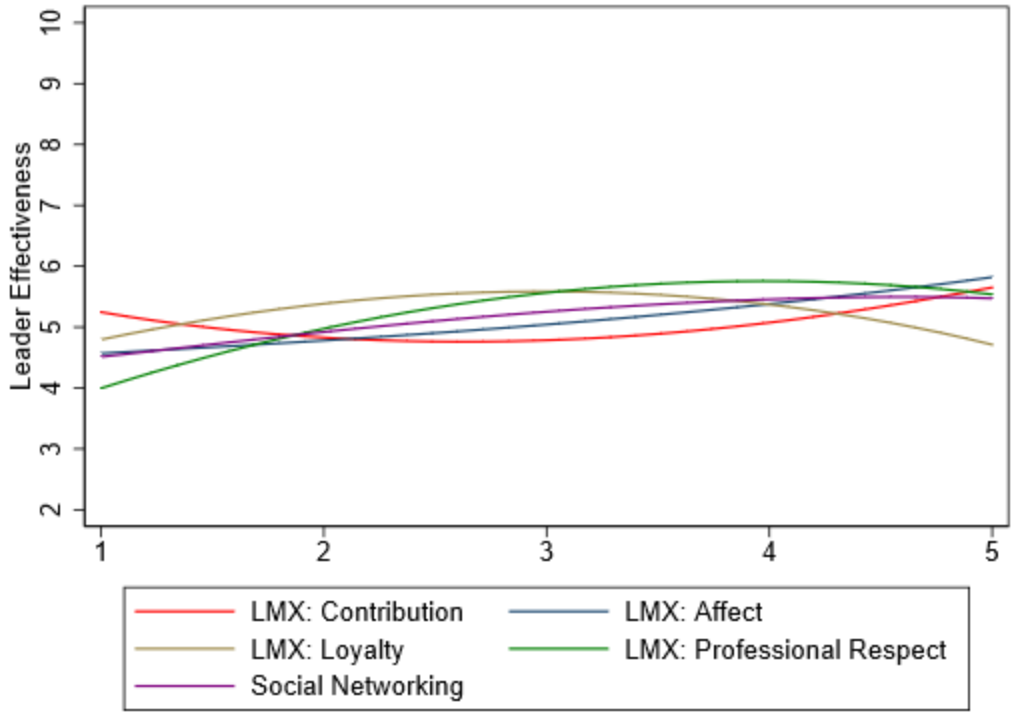


Figure A33.2. Judgment policy by leadership quality for Case 33 based on predicted leader-effectiveness scores from quadric regression.

Table A34.1

Case 34 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.53	1.20	0.44	.663	-1.93	2.99
contribution2	-0.02	0.20	-0.08	.933	-0.43	0.39
loyal	-1.32	1.28	-1.03	.312	-3.95	1.31
loyal2	0.28	0.21	1.32	.197	-0.15	0.70
affect	0.80	1.19	0.68	.505	-1.64	3.24
affect2	-0.12	0.20	-0.62	.539	-0.53	0.29
respect	2.81	1.16	2.44	.022	0.44	5.19
respect2	-0.18	0.19	-0.96	.344	-0.58	0.21
network	-0.83	1.24	-0.67	.508	-3.38	1.72
network2	0.14	0.20	0.67	.507	-0.28	0.55

Note. $F_{(10, 26)} = 41.64$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A34.2

Case 34 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.36	0.22	1.64	.111	0.16
loyal	0.32	0.23	1.37	.180	0.14
affect	0.04	0.22	0.20	.841	0.02
respect	1.61	0.21	7.56	.000	0.73
network	-0.04	0.24	-0.16	.877	-0.02

Note. $F_{(5, 31)} = 87.15$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 34 Observed Judgment Policy of School Building Leader Effectiveness

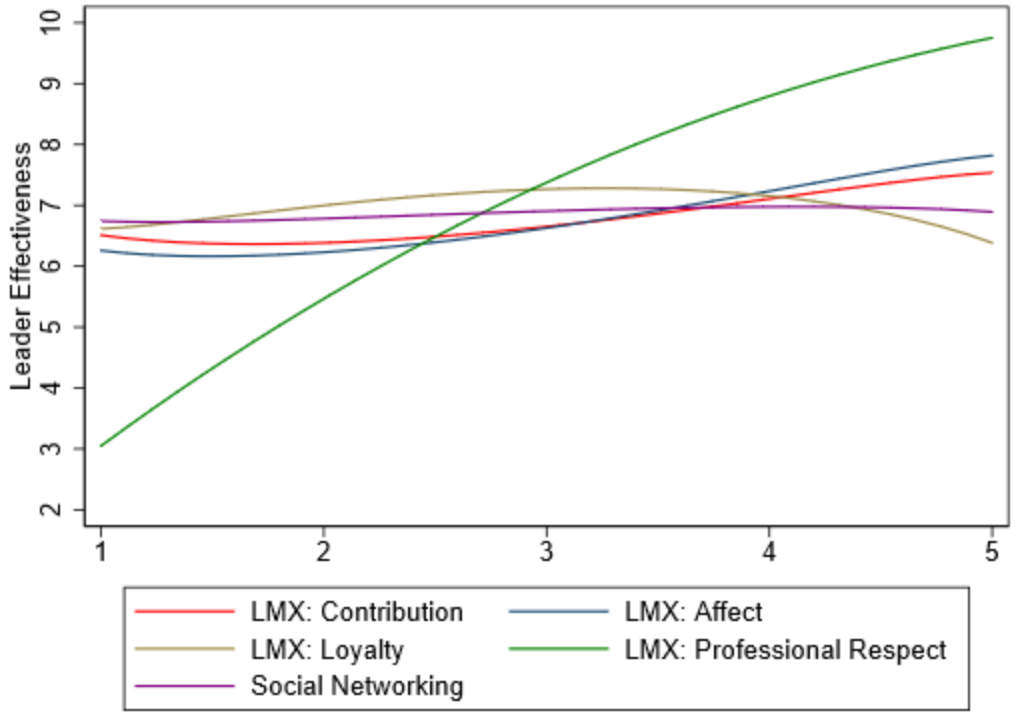


Figure A34.1. Judgment policy by leadership quality for Case 34 based on observed leader-effectiveness scores.

Case 34 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

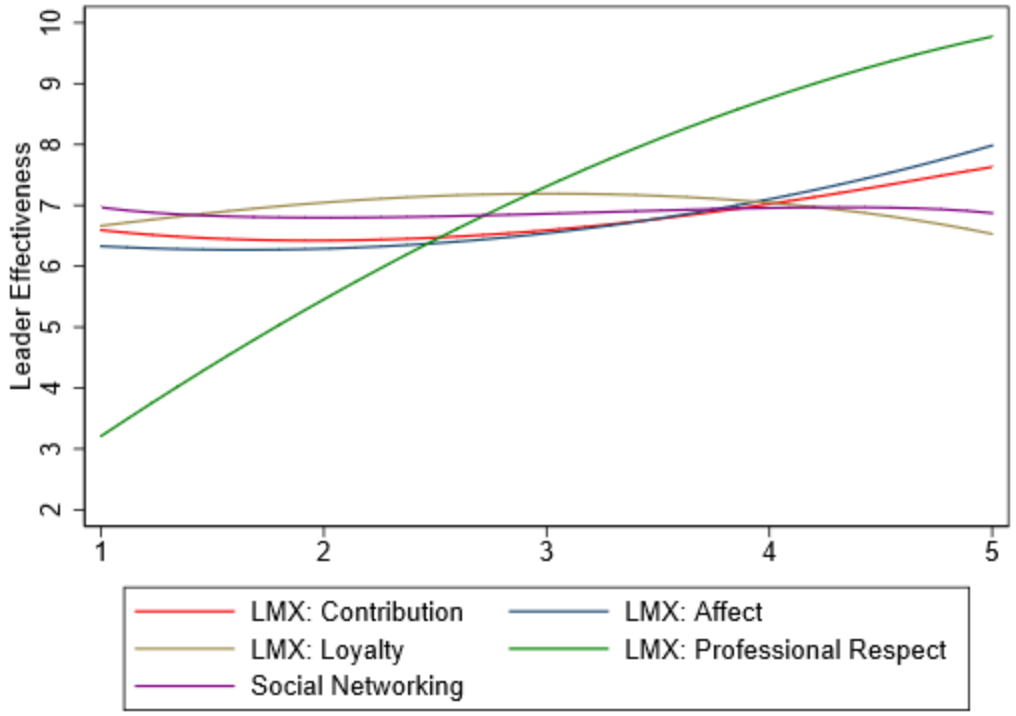


Figure A34.2. Judgment policy by leadership quality for Case 34 based on predicted leader-effectiveness scores from quadric regression.

Table A35.1

Case 35 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.93	0.97	0.96	.344	-1.06	2.93
contribution2	-0.14	0.16	-0.89	.381	-0.48	0.19
loyal	-2.48	1.04	-2.40	.024	-4.61	-0.35
loyal2	0.46	0.17	2.74	.011	0.11	0.81
affect	1.16	0.96	1.20	.239	-0.82	3.13
affect2	-0.21	0.16	-1.31	.203	-0.54	0.12
respect	1.67	0.94	1.79	.086	-0.25	3.59
respect2	0.02	0.15	0.12	.907	-0.30	0.34
network	0.50	1.00	0.50	.625	-1.57	2.56
network2	-0.07	0.16	-0.46	.650	-0.41	0.26

Note. $F_{(10, 26)} = 49.02$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A35.2

Case 35 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.04	0.19	0.23	.816	0.02
loyal	0.29	0.20	1.41	.167	0.13
affect	-0.09	0.19	-0.48	.632	-0.04
respect	1.69	0.19	9.10	.000	0.78
network	0.02	0.21	0.10	.919	0.01

Note. $F_{(5, 31)} = 87.56$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 35 Observed Judgment Policy of School Building Leader Effectiveness

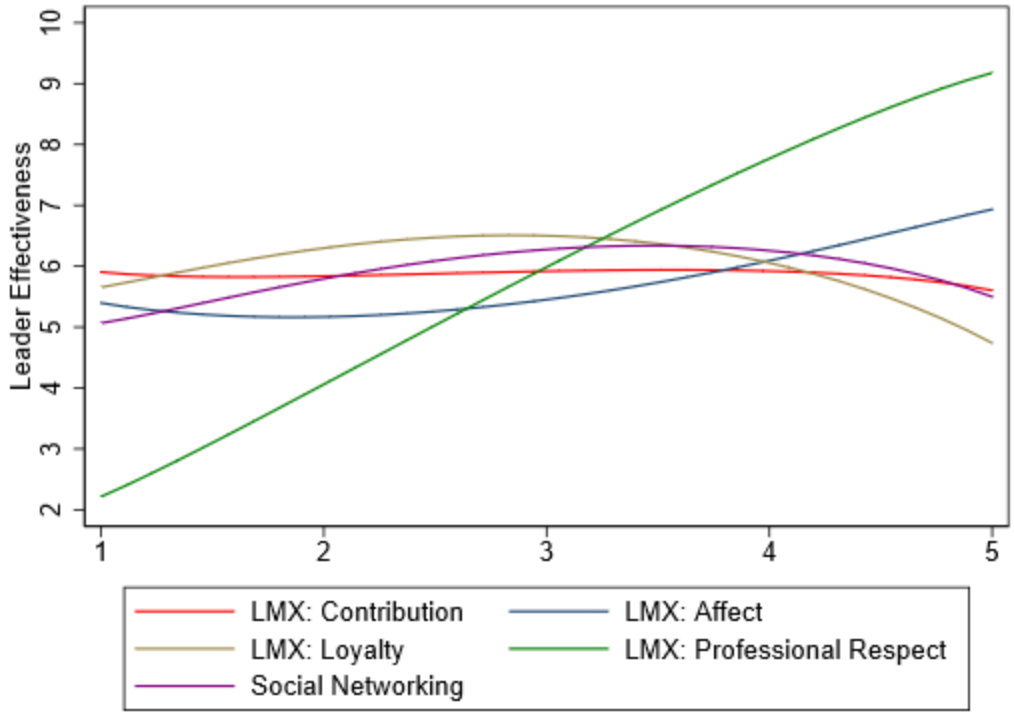


Figure A35.1. Judgment policy by leadership quality for Case 35 based on observed leader-effectiveness scores.

Case 35 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

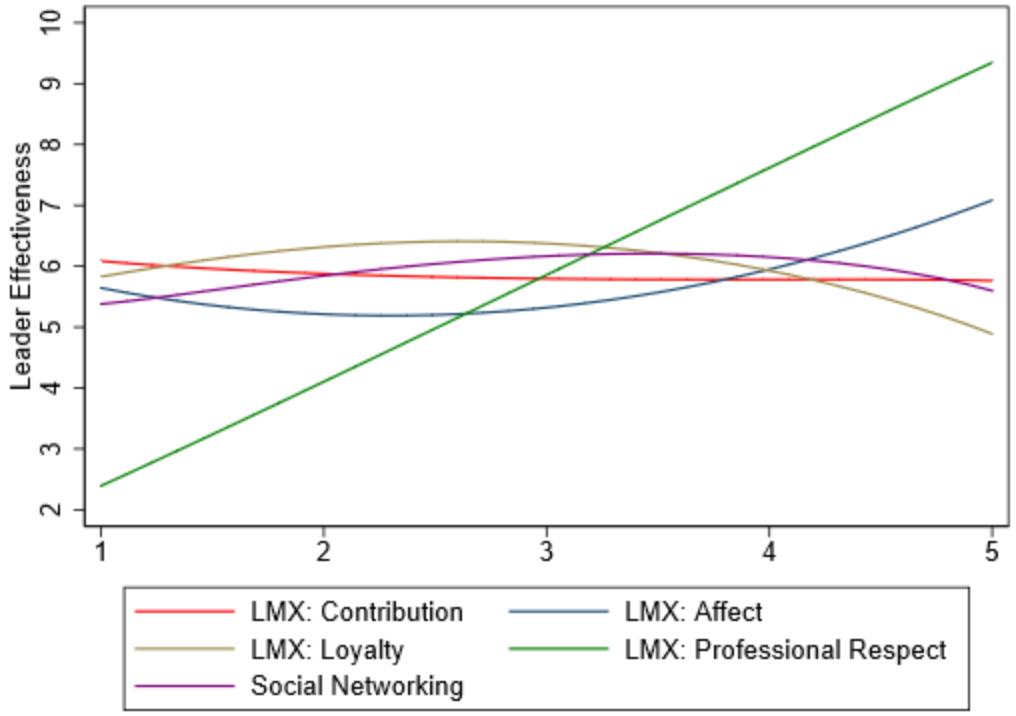


Figure A35.2. Judgment policy by leadership quality for Case 35 based on predicted leader-effectiveness scores from quadric regression.

Table A36.1

Case 36 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.53	0.90	-1.69	.102	-3.38	0.33
contribution2	0.23	0.15	1.52	.140	-0.08	0.54
loyal	-1.38	0.96	-1.44	.163	-3.37	0.60
loyal2	0.23	0.16	1.50	.146	-0.09	0.56
affect	2.30	0.89	2.58	.016	0.47	4.14
affect2	-0.36	0.15	-2.42	.023	-0.67	-0.06
respect	2.05	0.87	2.36	.026	0.26	3.84
respect2	-0.17	0.14	-1.15	.262	-0.46	0.13
network	1.10	0.93	1.18	.249	-0.82	3.02
network2	-0.10	0.15	-0.67	.509	-0.41	0.21

Note. $F_{(10, 26)} = 50.17$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A36.2

Case 36 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.13	0.18	-0.69	.493	-0.08
loyal	0.11	0.20	0.54	.592	0.06
affect	0.22	0.19	1.16	.255	0.13
respect	1.15	0.18	6.44	.000	0.69
network	0.56	0.20	2.84	.008	0.31

Note. $F_{(5, 31)} = 83.29$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 36 Observed Judgment Policy of School Building Leader Effectiveness

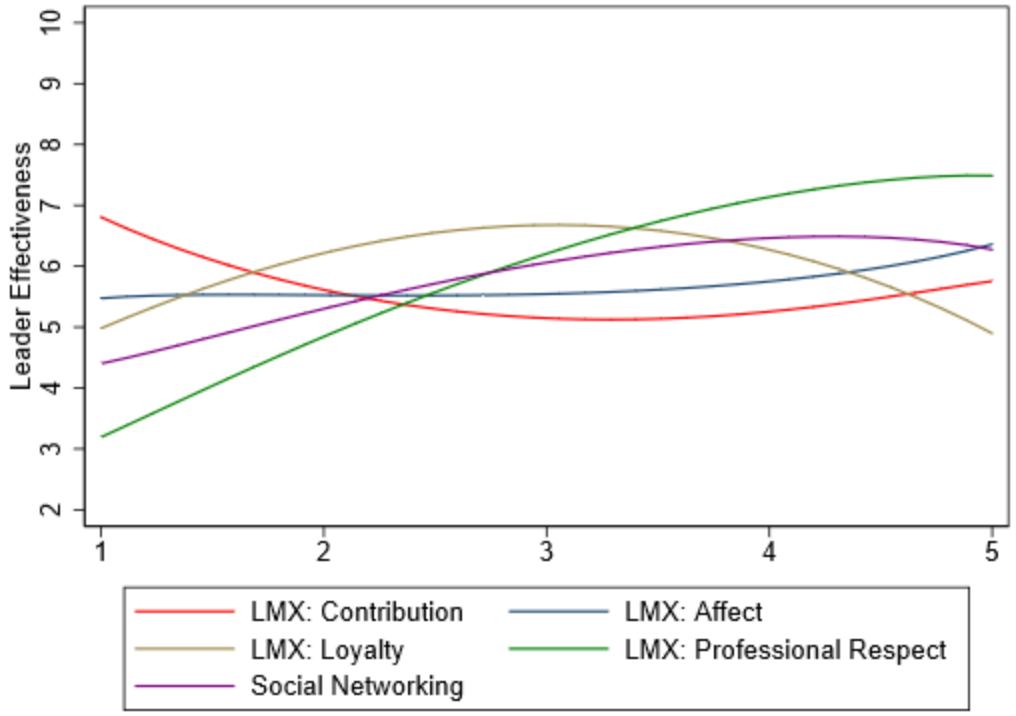


Figure A36.1. Judgment policy by leadership quality for Case 36 based on observed leader-effectiveness scores.

Case 36 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

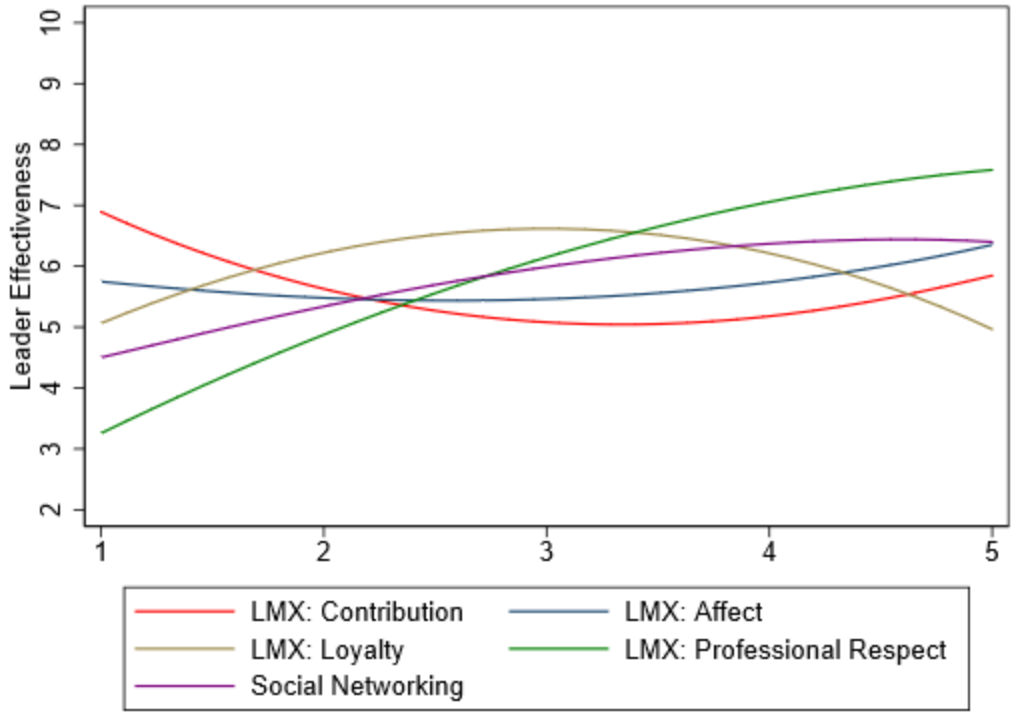


Figure A36.2. Judgment policy by leadership quality for Case 36 based on predicted leader-effectiveness scores from quadric regression.

Table A37.1

Case 37 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.55	0.67	0.82	.421	-0.83	1.93
contribution2	-0.07	0.11	-0.63	.533	-0.30	0.16
loyal	-1.43	0.72	-1.99	.057	-2.91	0.05
loyal2	0.27	0.12	2.30	.030	0.03	0.51
affect	1.27	0.67	1.90	.068	-0.10	2.64
affect2	-0.22	0.11	-1.92	.066	-0.45	0.02
respect	0.93	0.65	1.42	.166	-0.41	2.26
respect2	-0.06	0.11	-0.58	.567	-0.28	0.16
network	0.73	0.70	1.05	.303	-0.70	2.16
network2	0.00	0.11	0.04	.967	-0.23	0.24

Note. $F_{(10, 26)} = 73.13$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A37.2

Case 37 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.13	0.13	1.01	.321	0.11
loyal	0.22	0.14	1.57	.127	0.17
affect	0.04	0.13	0.30	.765	0.03
respect	0.55	0.13	4.27	.000	0.44
network	0.80	0.14	5.61	.000	0.59

Note. $F_{(5, 31)} = 132.57$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 37 Observed Judgment Policy of School Building Leader Effectiveness

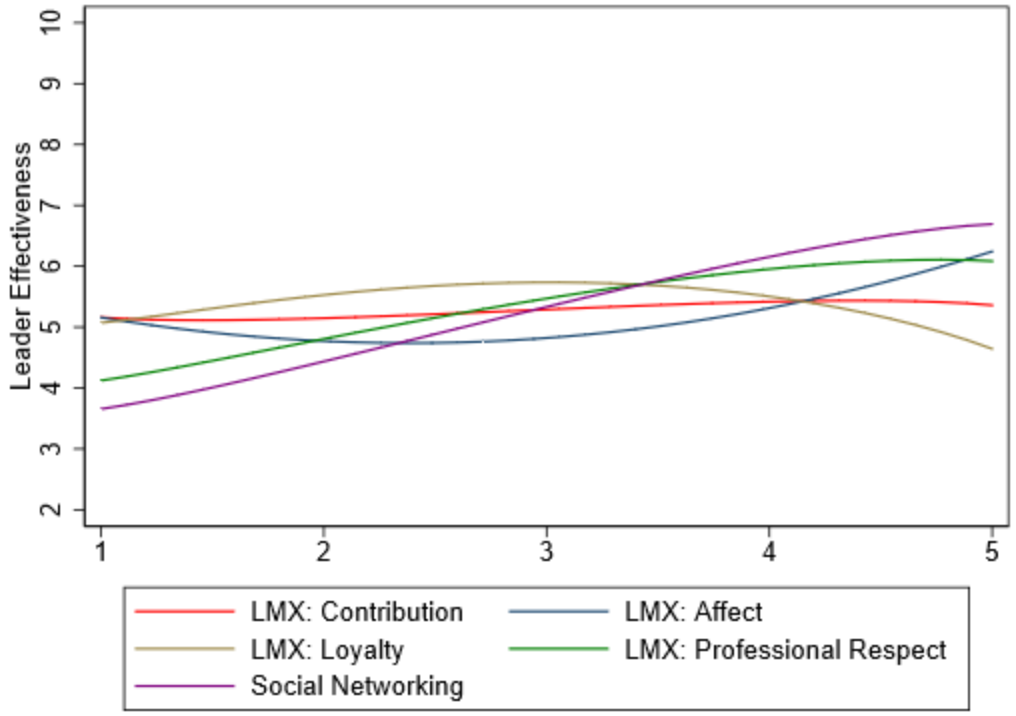


Figure A37.1. Judgment policy by leadership quality for Case 37 based on observed leader-effectiveness scores.

Case 37 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

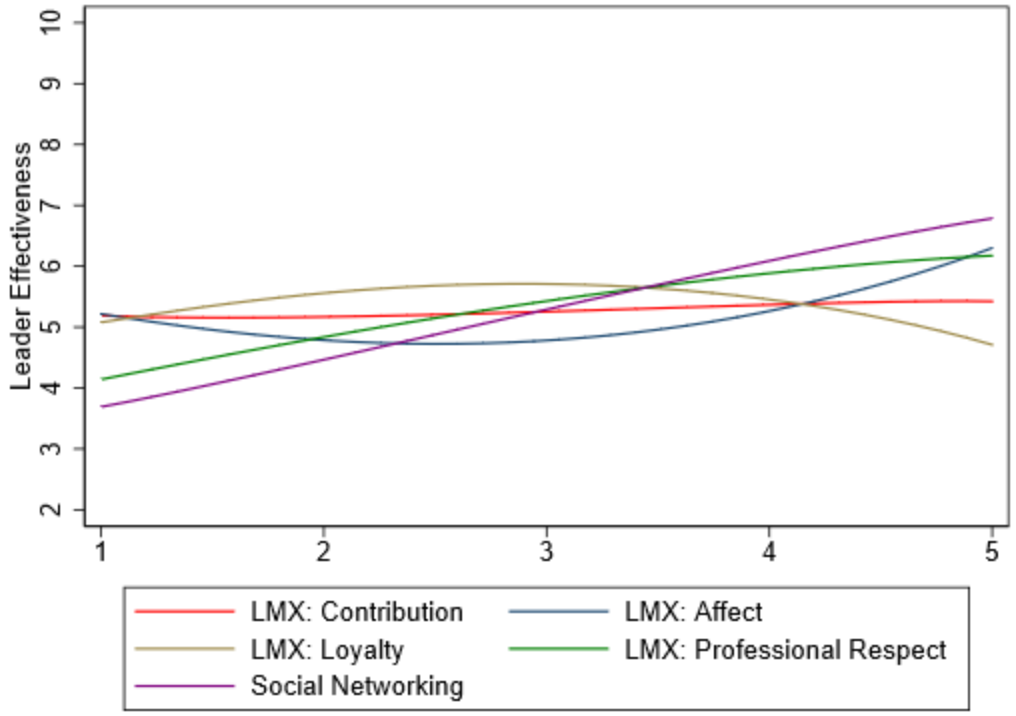


Figure A37.2. Judgment policy by leadership quality for Case 37 based on predicted leader-effectiveness scores from quadric regression.

Table A38.1

Case 38 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.32	1.18	-0.27	.790	-2.74	2.11
contribution2	0.07	0.20	0.35	.730	-0.34	0.47
loyal	-1.91	1.26	-1.51	.142	-4.50	0.68
loyal2	0.31	0.20	1.50	.145	-0.11	0.73
affect	1.71	1.17	1.46	.155	-0.69	4.12
affect2	-0.27	0.20	-1.40	.175	-0.68	0.13
respect	0.34	1.14	0.30	.768	-2.00	2.68
respect2	0.01	0.19	0.07	.947	-0.38	0.40
network	2.36	1.22	1.93	.065	-0.15	4.87
network2	-0.23	0.20	-1.16	.257	-0.64	0.18

Note. $F_{(10, 26)} = 24.48$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Table A38.2

Case 38 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.22	0.63	.534	0.08
loyal	0.01	0.23	0.03	.975	0.00
affect	0.14	0.22	0.63	.531	0.08
respect	0.47	0.21	2.19	.036	0.28
network	1.01	0.24	4.24	.000	0.54

Note. $F_{(5, 31)} = 48.88$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 38 Observed Judgment Policy of School Building Leader Effectiveness

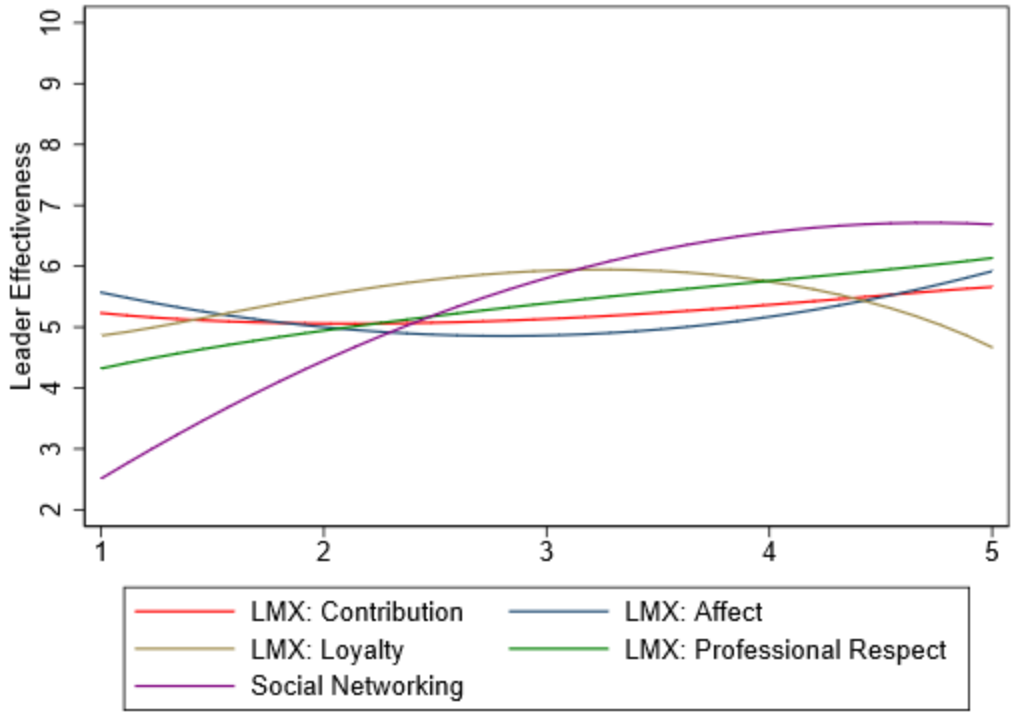


Figure A38.1. Judgment policy by leadership quality for Case 38 based on observed leader-effectiveness scores.

Case 38 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

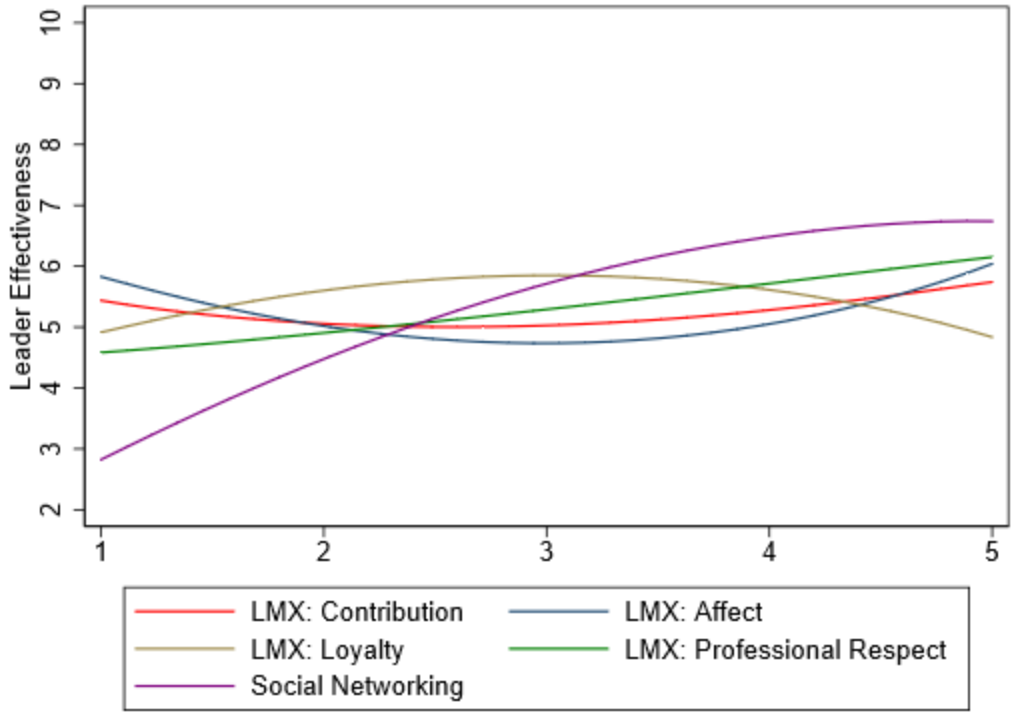


Figure A38.2. Judgment policy by leadership quality for Case 38 based on predicted leader-effectiveness scores from quadric regression.

Table A39.1

Case 39 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.62	1.54	1.06	.301	-1.54	4.79
contribution2	-0.23	0.26	-0.89	.384	-0.76	0.30
loyal	-1.33	1.64	-0.81	.424	-4.72	2.05
loyal2	0.24	0.27	0.88	.386	-0.31	0.78
affect	4.30	1.53	2.82	.009	1.16	7.43
affect2	-0.73	0.26	-2.86	.008	-1.26	-0.21
respect	-0.64	1.49	-0.43	.669	-3.70	2.41
respect2	0.23	0.25	0.93	.360	-0.28	0.73
network	0.66	1.59	0.41	.683	-2.62	3.93
network2	-0.12	0.26	-0.46	.648	-0.65	0.41

Note. $F_{(10, 26)} = 24.12$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Table A39.2

Case 39 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.46	0.32	1.44	.161	0.24
loyal	0.29	0.34	0.85	.404	0.15
affect	0.24	0.32	0.74	.464	0.13
respect	1.03	0.31	3.30	.002	0.54
network	0.24	0.35	0.69	.498	0.11

Note. $F_{(5, 31)} = 36.91$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .83$

Case 39 Observed Judgment Policy of School Building Leader Effectiveness

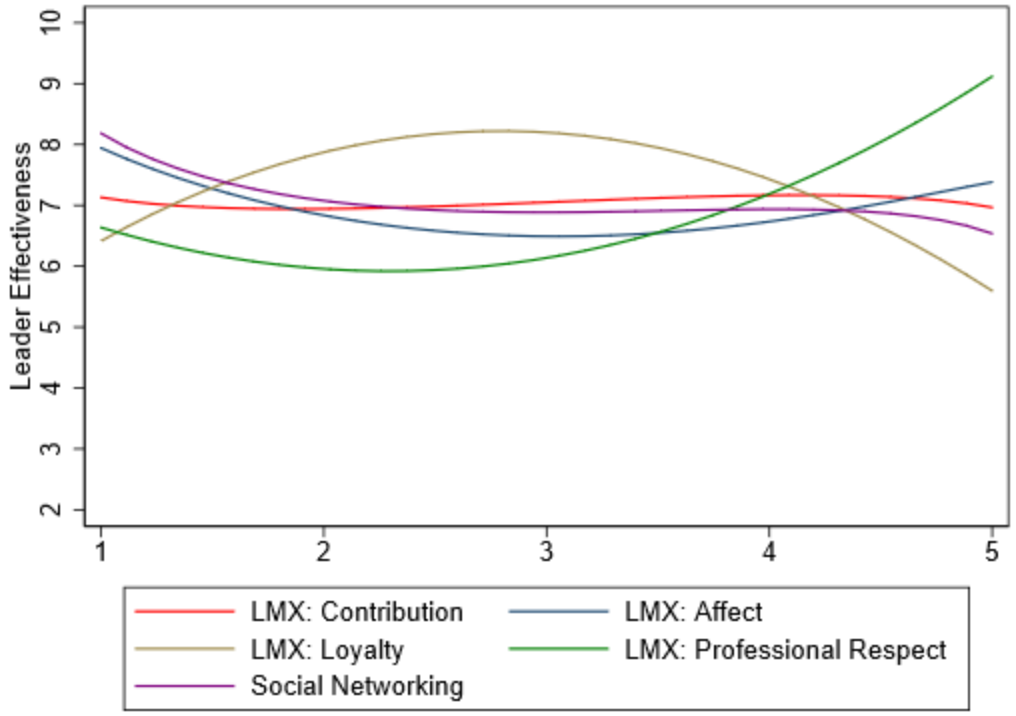


Figure A39.1. Judgment policy by leadership quality for Case 39 based on observed leader-effectiveness scores.

Case 39 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

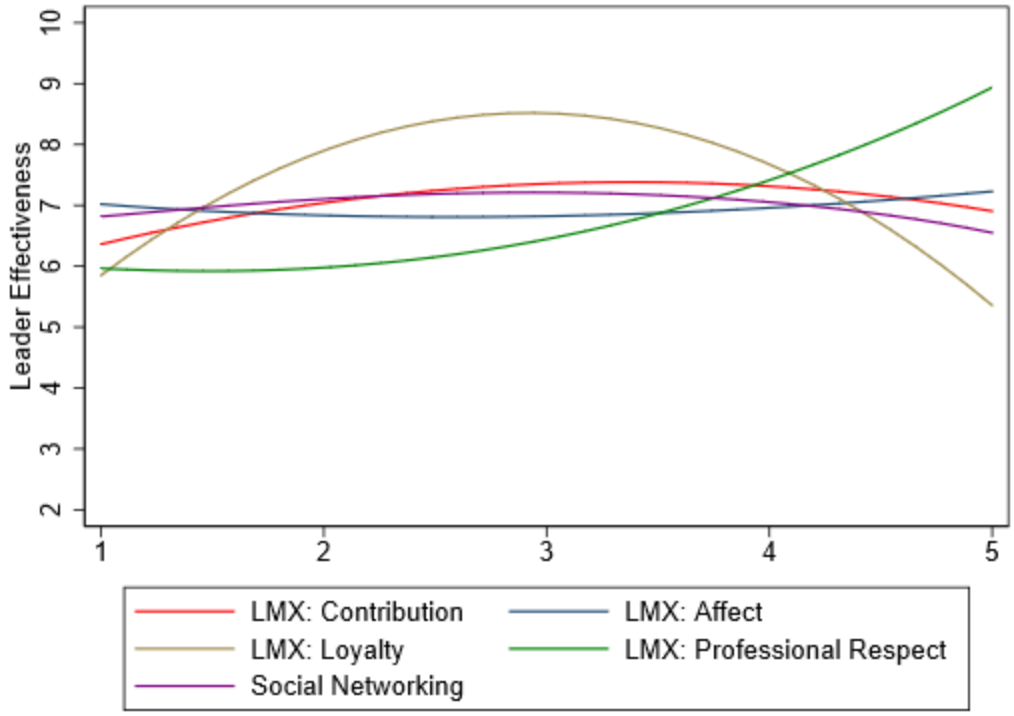


Figure A39.2. Judgment policy by leadership quality for Case 39 based on predicted leader-effectiveness scores from quadric regression.

Table A40.1

Case 40 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.80	1.28	0.62	.539	-1.84	3.44
contribution2	-0.09	0.21	-0.43	.670	-0.53	0.35
loyal	-1.89	1.37	-1.38	.180	-4.71	0.93
loyal2	0.32	0.22	1.41	.169	-0.14	0.77
affect	1.17	1.27	0.92	.367	-1.45	3.79
affect2	-0.17	0.21	-0.78	.440	-0.61	0.27
respect	0.47	1.24	0.38	.707	-2.08	3.02
respect2	0.02	0.21	0.10	.919	-0.40	0.44
network	2.43	1.33	1.83	.079	-0.30	5.16
network2	-0.34	0.22	-1.55	.133	-0.78	0.11

Note. $F_{(10, 26)} = 26.19$ ($p < .001$), $R^2 = .91$, Adjusted $R2 = .88$

Table A40.2

Case 40 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.24	1.56	.128	0.23
loyal	0.13	0.26	0.52	.609	0.08
affect	0.31	0.24	1.26	.216	0.19
respect	0.71	0.23	3.04	.005	0.44
network	0.50	0.26	1.92	.064	0.28

Note. $F_{(5, 31)} = 52.09$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .88$

Case 40 Observed Judgment Policy of School Building Leader Effectiveness

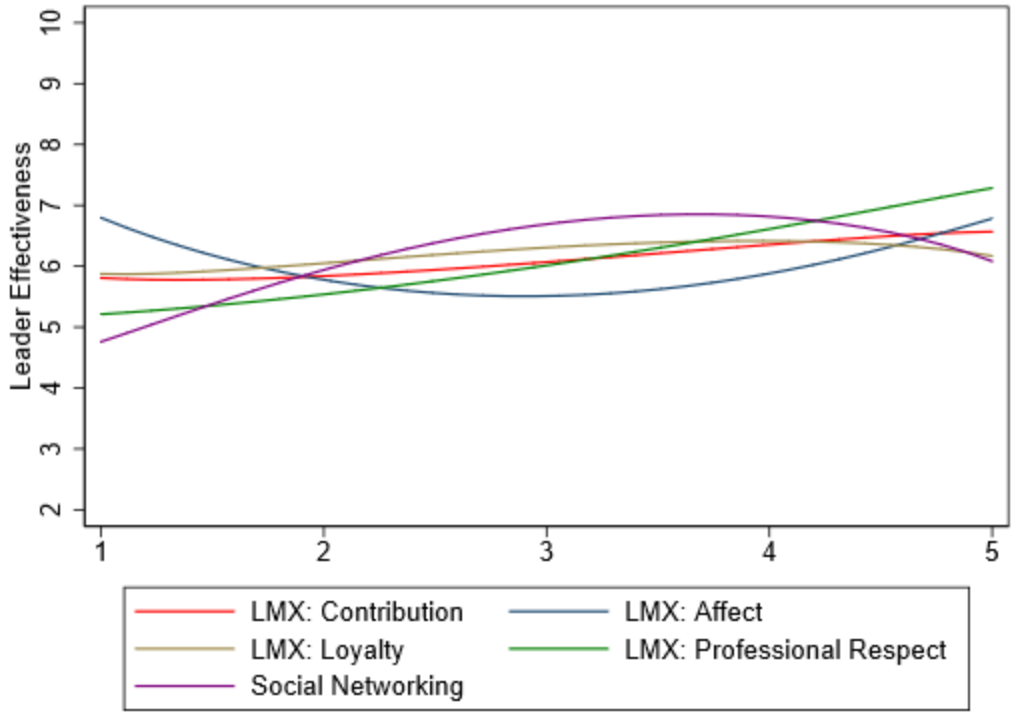


Figure A40.1. Judgment policy by leadership quality for Case 40 based on observed leader-effectiveness scores.

Case 40 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

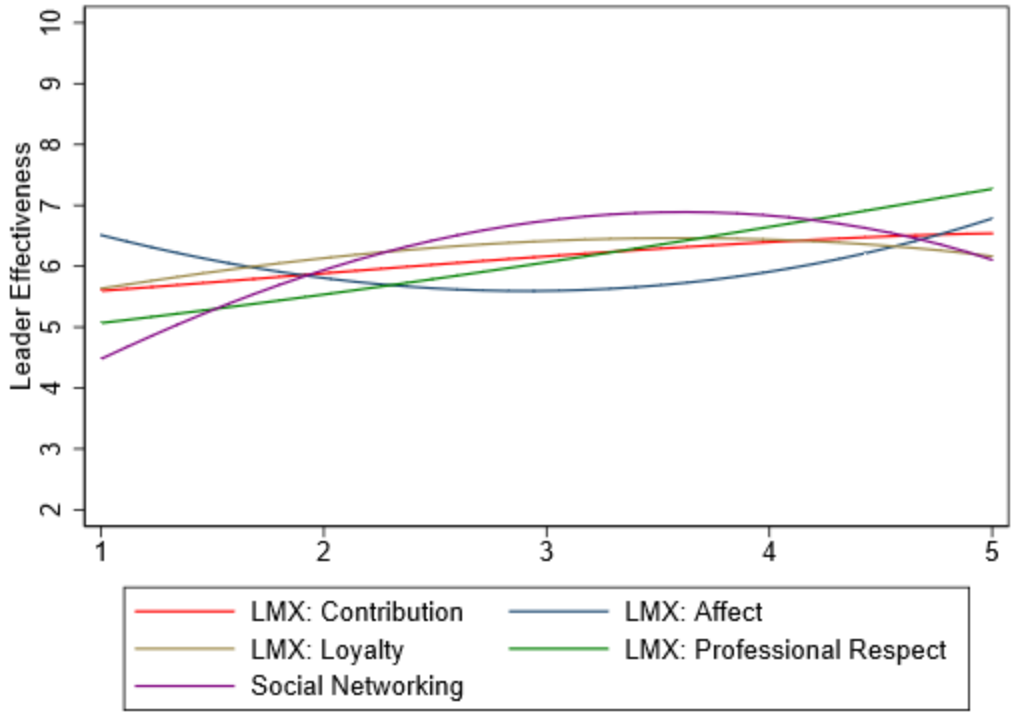


Figure A40.2. Judgment policy by leadership quality for Case 40 based on predicted leader-effectiveness scores from quadric regression.

Table A41.1

Case 41 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.51	0.89	-0.57	.571	-2.35	1.32
contrib2	0.10	0.15	0.67	.509	-0.21	0.41
loyal	-0.81	0.95	-0.85	.404	-2.77	1.15
loyal2	0.15	0.15	0.99	.330	-0.16	0.47
affect	1.27	0.88	1.43	.164	-0.55	3.08
affect2	-0.20	0.15	-1.32	.200	-0.50	0.11
respect	1.35	0.86	1.56	.130	-0.43	3.12
respect2	-0.13	0.14	-0.90	.375	-0.42	0.16
network	1.86	0.92	2.01	.055	-0.04	3.76
network2	-0.25	0.15	-1.70	.102	-0.56	0.05

Note. $F_{(10, 26)} = 50.11$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A41.2

Case 41 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.22	0.17	1.24	.224	0.18
loyal	0.26	0.19	1.41	.169	0.21
affect	0.25	0.18	1.44	.160	0.21
respect	0.75	0.17	4.39	.000	0.62
network	0.45	0.19	2.39	.023	0.34

Note. $F_{(5, 31)} = 90.14$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 41 Observed Judgment Policy of School Building Leader Effectiveness

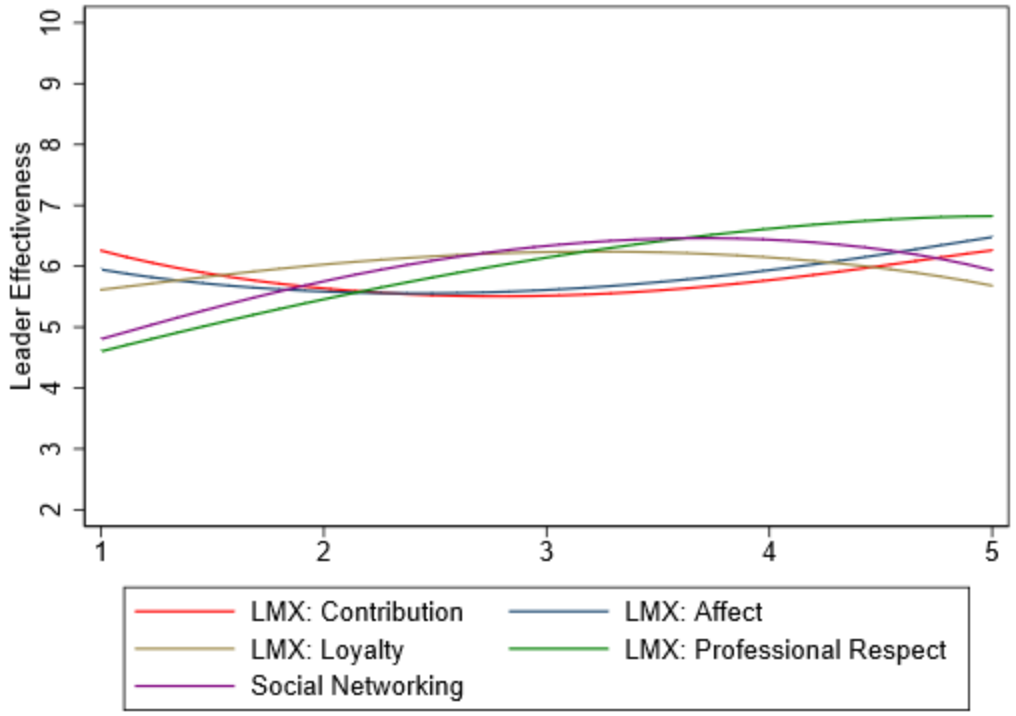


Figure A41.1. Judgment policy by leadership quality for Case 41 based on observed leader-effectiveness scores.

Case 41 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

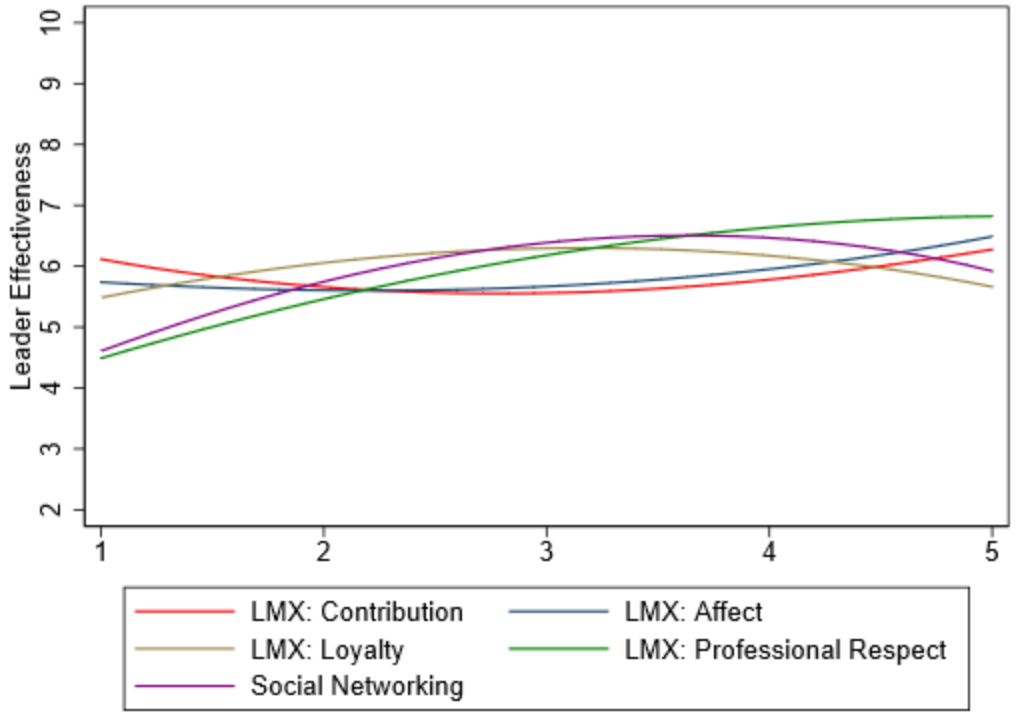


Figure A41.2. Judgment policy by leadership quality for Case 41 based on predicted leader-effectiveness scores from quadric regression.

Table A42.1

Case 42 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.82	0.84	0.98	.336	-0.90	2.55
contribution2	-0.12	0.14	-0.84	.408	-0.41	0.17
loyal	-1.71	0.90	-1.90	.068	-3.55	0.14
loyal2	0.29	0.15	1.97	.059	-0.01	0.59
affect	0.39	0.83	0.47	.640	-1.32	2.10
affect2	-0.04	0.14	-0.31	.757	-0.33	0.24
respect	1.46	0.81	1.80	.083	-0.20	3.13
respect2	-0.09	0.13	-0.70	.490	-0.37	0.18
network	0.78	0.87	0.89	.380	-1.01	2.56
network2	-0.09	0.14	-0.63	.534	-0.38	0.20

Note. $F_{(10, 26)} = 35.83$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A42.2

Case 42 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.16	0.93	.359	0.11
loyal	0.06	0.17	0.39	.701	0.05
affect	0.18	0.16	1.14	.263	0.14
respect	0.88	0.15	5.78	.000	0.68
network	0.26	0.17	1.53	.137	0.18

Note. $F_{(5, 31)} = 72.14$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 42 Observed Judgment Policy of School Building Leader Effectiveness

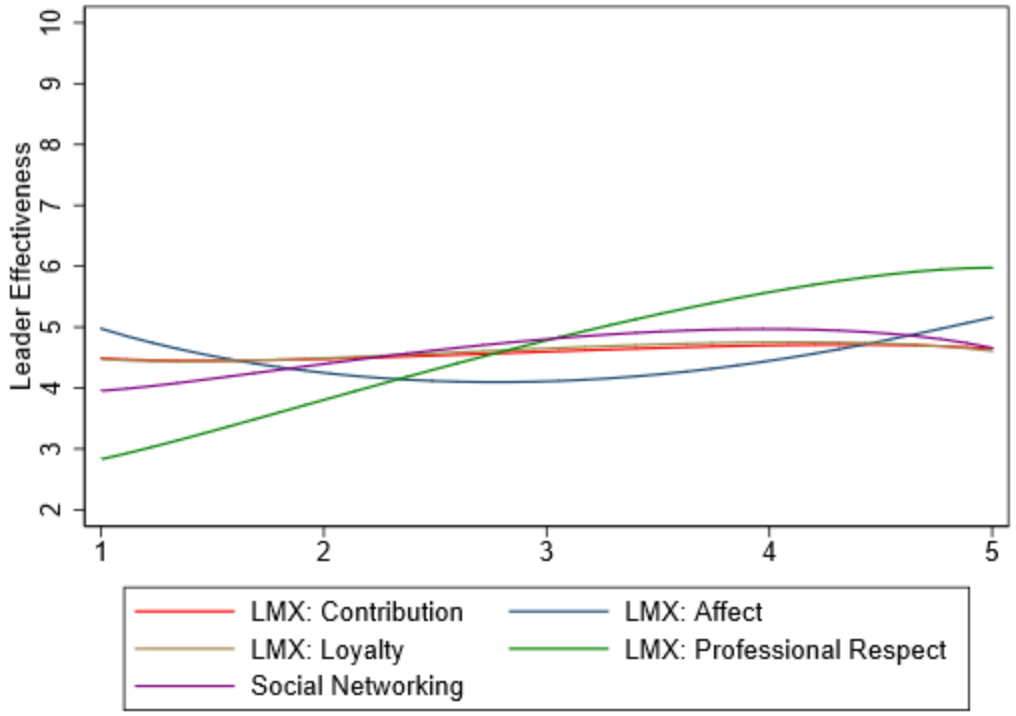


Figure A42.1. Judgment policy by leadership quality for Case 42 based on observed leader-effectiveness scores.

Case 42 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

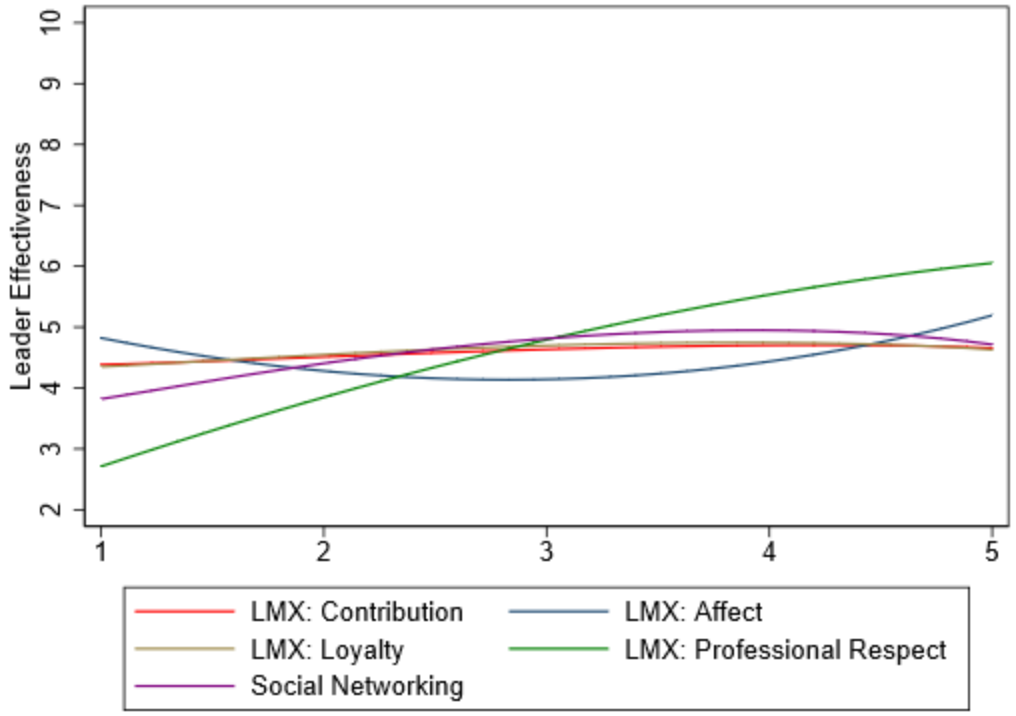


Figure A42.2. Judgment policy by leadership quality for Case 42 based on predicted leader-effectiveness scores from quadric regression.

Table A43.1

Case 43 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.72	0.98	0.74	.469	-1.29	2.72
contribution2	-0.10	0.16	-0.63	.536	-0.44	0.23
loyal	-1.58	1.04	-1.51	.143	-3.72	0.57
loyal2	0.28	0.17	1.68	.105	-0.06	0.63
affect	0.57	0.97	0.59	.561	-1.42	2.56
affect2	-0.07	0.16	-0.46	.652	-0.41	0.26
respect	0.83	0.94	0.88	.385	-1.11	2.77
respect2	0.01	0.16	0.06	.953	-0.31	0.33
network	2.44	1.01	2.41	.023	0.36	4.52
network2	-0.33	0.16	-2.01	.055	-0.67	0.01

Note. $F_{(10, 26)} = 54.13$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Table A43.2

Case 43 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.22	0.19	1.21	.237	0.15
loyal	0.25	0.20	1.23	.227	0.16
affect	0.24	0.19	1.27	.214	0.16
respect	0.97	0.18	5.33	.000	0.66
network	0.51	0.20	2.51	.017	0.31

Note. $F_{(5, 31)} = 102.01$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 43 Observed Judgment Policy of School Building Leader Effectiveness

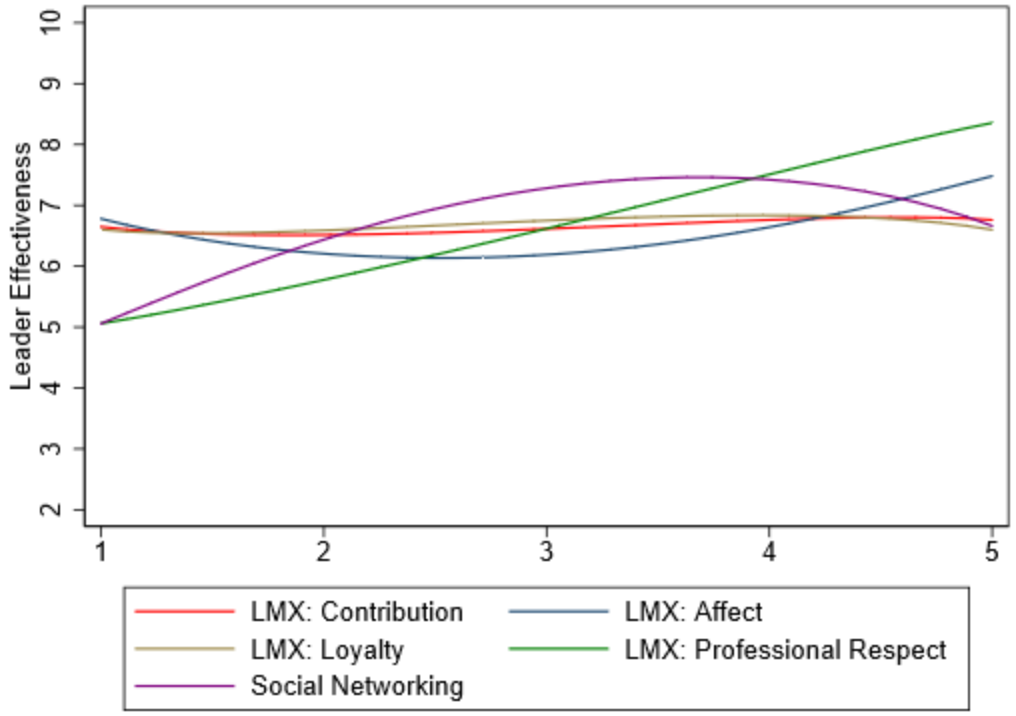


Figure A43.1. Judgment policy by leadership quality for Case 43 based on observed leader-effectiveness scores.

Case 43 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

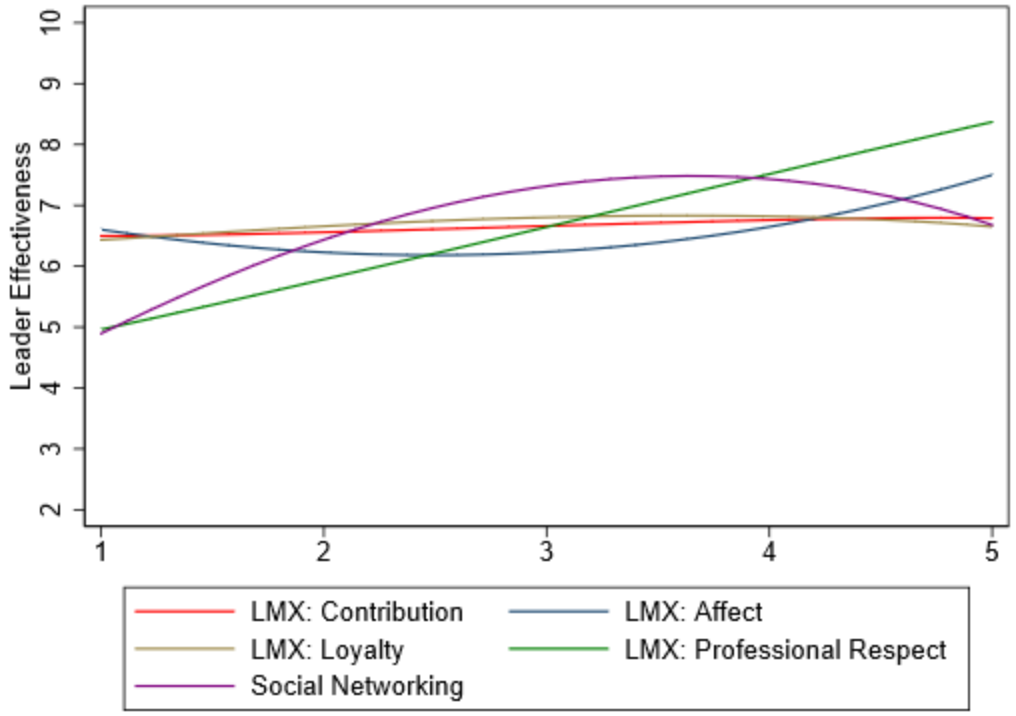


Figure A43.2. Judgment policy by leadership quality for Case 43 based on predicted leader-effectiveness scores from quadric regression.

Table A44.1

Case 44 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.28	0.96	-0.29	.773	-2.26	1.70
contribution2	0.05	0.16	0.31	.756	-0.28	0.38
loyal	-2.46	1.03	-2.40	.024	-4.57	-0.35
loyal2	0.44	0.17	2.64	.014	0.10	0.78
affect	1.10	0.95	1.15	.261	-0.86	3.05
affect2	-0.19	0.16	-1.18	.247	-0.52	0.14
respect	1.59	0.93	1.71	.099	-0.32	3.49
respect2	-0.08	0.15	-0.50	.621	-0.39	0.24
network	1.76	1.00	1.77	.088	-0.28	3.81
network2	-0.14	0.16	-0.88	.389	-0.47	0.19

Note. $F_{(10, 26)} = 49.63$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A44.2

Case 44 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.02	0.19	-0.09	.929	-0.01
loyal	0.19	0.20	0.92	.365	0.09
affect	-0.05	0.19	-0.28	.781	-0.03
respect	1.04	0.18	5.66	.000	0.54
network	0.86	0.21	4.18	.000	0.41

Note. $F_{(5, 31)} = 88.60$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Case 44 Observed Judgment Policy of School Building Leader Effectiveness

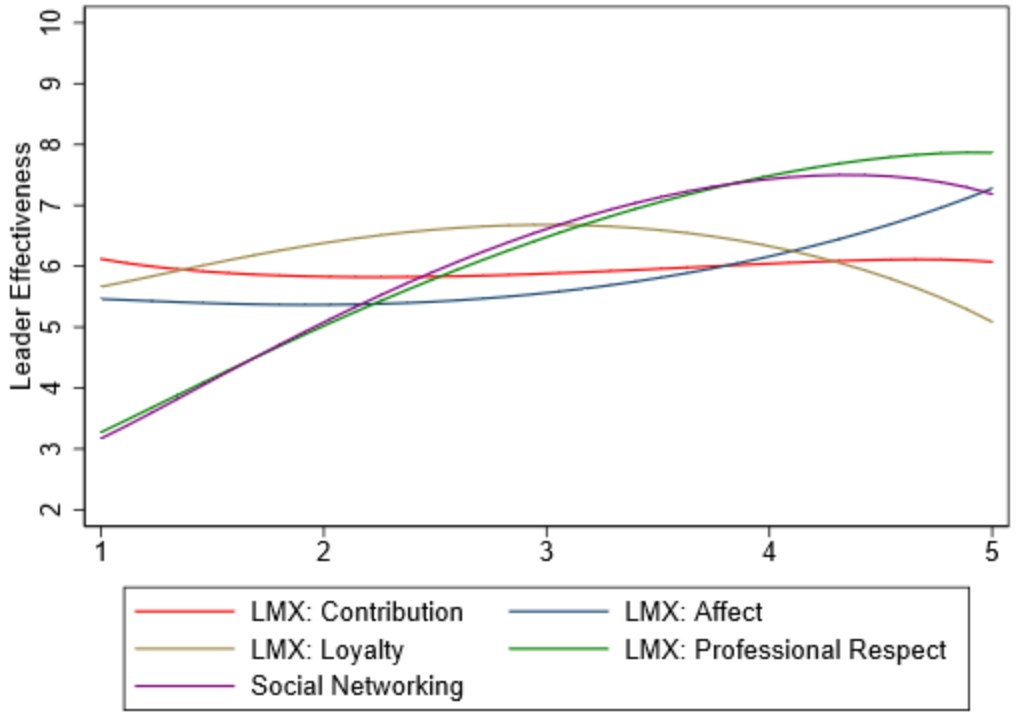


Figure A44.1. Judgment policy by leadership quality for Case 44 based on observed leader-effectiveness scores.

Case 44 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

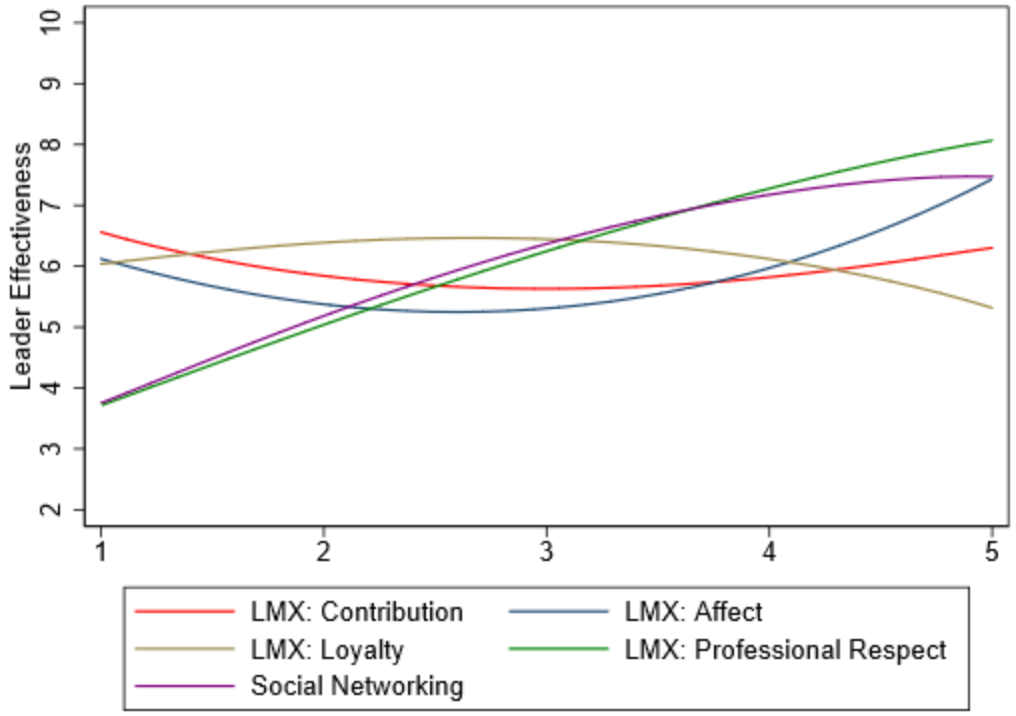


Figure A44.2. Judgment policy by leadership quality for Case 44 based on predicted leader-effectiveness scores from quadric regression.

Table A45.1

Case 45 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.44	1.10	-0.40	.689	-2.70	1.81
contribution2	0.03	0.18	0.19	.854	-0.34	0.41
loyal	-1.95	1.17	-1.67	.107	-4.36	0.46
loyal2	0.40	0.19	2.12	.044	0.01	0.79
affect	1.83	1.09	1.69	.104	-0.40	4.07
affect2	-0.30	0.18	-1.66	.109	-0.68	0.07
respect	1.01	1.06	0.96	.348	-1.16	3.19
respect2	-0.03	0.18	-0.20	.846	-0.39	0.33
network	3.00	1.14	2.64	.014	0.66	5.33
network2	-0.45	0.18	-2.45	.021	-0.83	-0.07

Note. $F_{(10, 26)} = 42.39$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A45.2

Case 45 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.08	0.23	-0.35	.727	-0.04
loyal	0.64	0.24	2.65	.012	0.34
affect	0.20	0.23	0.88	.387	0.11
respect	0.98	0.22	4.42	.000	0.54
network	0.39	0.25	1.60	.120	0.20

Note. $F_{(5, 31)} = 67.42$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 45 Observed Judgment Policy of School Building Leader Effectiveness

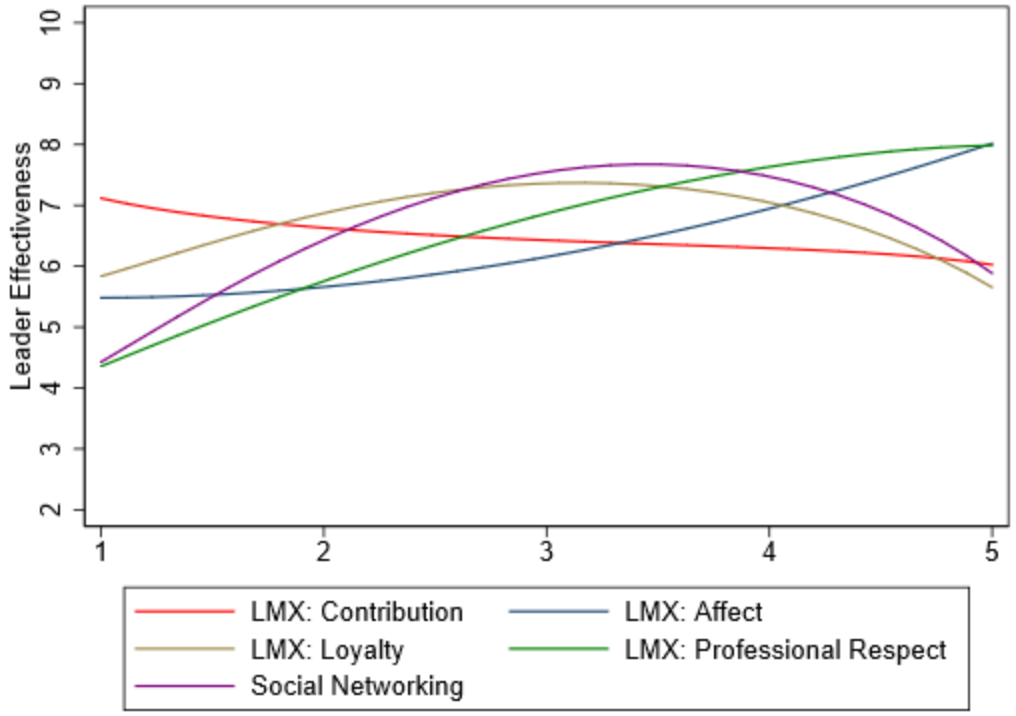


Figure A45.1. Judgment policy by leadership quality for Case 45 based on observed leader-effectiveness scores.

Case 45 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

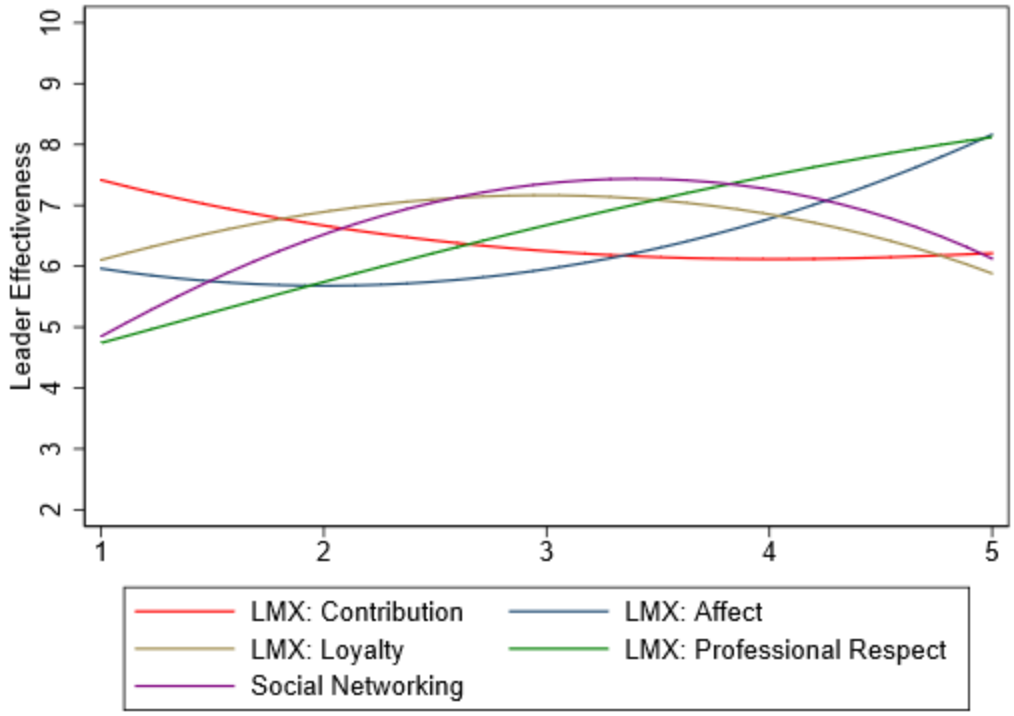


Figure A45.2. Judgment policy by leadership quality for Case 45 based on predicted leader-effectiveness scores from quadric regression.

Table A46.1

Case 46 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.02	1.30	-0.79	.439	-3.70	1.65
contribution2	0.18	0.22	0.82	.417	-0.27	0.63
loyal	-1.89	1.39	-1.36	.187	-4.75	0.98
loyal2	0.33	0.23	1.45	.158	-0.14	0.79
affect	0.66	1.29	0.51	.611	-1.99	3.32
affect2	-0.13	0.22	-0.59	.563	-0.57	0.32
respect	1.70	1.26	1.35	.188	-0.88	4.29
respect2	-0.12	0.21	-0.57	.575	-0.55	0.31
network	2.62	1.35	1.94	.063	-0.15	5.40
network2	-0.36	0.22	-1.64	.114	-0.81	0.09

Note. $F_{(10, 26)} = 20.26$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A46.2

Case 46 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.24	0.44	.661	0.06
loyal	0.17	0.26	0.64	.527	0.08
affect	-0.04	0.25	-0.18	.859	-0.02
respect	1.04	0.24	4.37	.000	0.54
network	0.47	0.27	1.76	.088	0.22

Note. $F_{(5, 31)} = 39.43$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .84$

Case 46 Observed Judgment Policy of School Building Leader Effectiveness

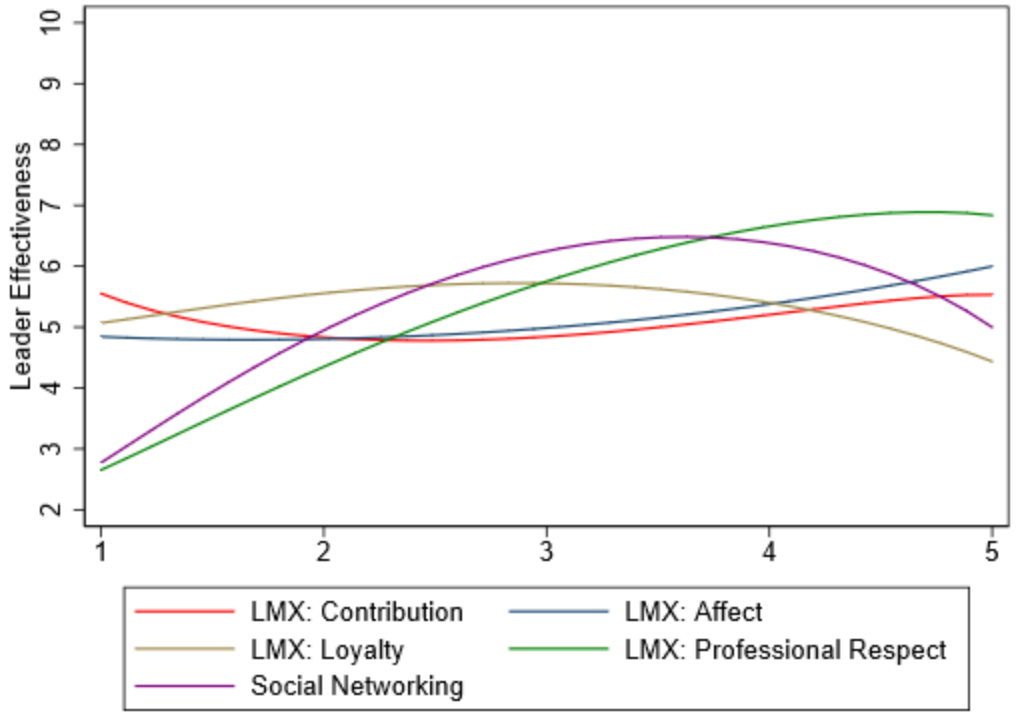


Figure A46.1. Judgment policy by leadership quality for Case 46 based on observed leader-effectiveness scores.

Case 46 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

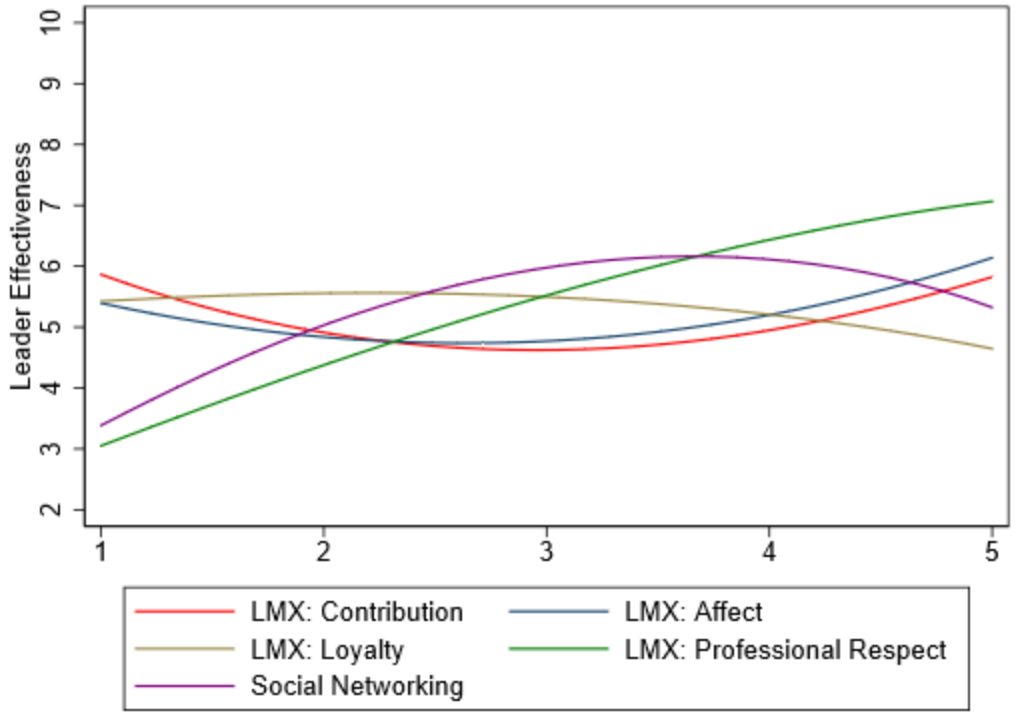


Figure A46.2. Judgment policy by leadership quality for Case 46 based on predicted leader-effectiveness scores from quadric regression.

Table A47.1

Case 47 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.49	1.41	0.34	.733	-2.42	3.39
contribution2	-0.09	0.24	-0.39	.701	-0.58	0.39
loyal	-3.57	1.51	-2.36	.026	-6.67	-0.46
loyal2	0.54	0.25	2.18	.038	0.03	1.04
affect	0.28	1.40	0.20	.845	-2.60	3.16
affect2	0.00	0.24	0.02	.984	-0.48	0.49
respect	2.25	1.36	1.65	.111	-0.55	5.06
respect2	-0.25	0.23	-1.09	.284	-0.71	0.22
network	4.29	1.46	2.93	.007	1.28	7.30
network2	-0.53	0.24	-2.23	.035	-1.02	-0.04

Note. $F_{(10, 26)} = 34.76$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A47.2

Case 47 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.12	0.28	0.44	.664	0.06
loyal	-0.14	0.30	-0.48	.636	-0.07
affect	0.48	0.29	1.68	.103	0.23
respect	0.88	0.28	3.19	.003	0.42
network	1.19	0.31	3.85	.001	0.51

Note. $F_{(5, 31)} = 58.83$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 47 Observed Judgment Policy of School Building Leader Effectiveness

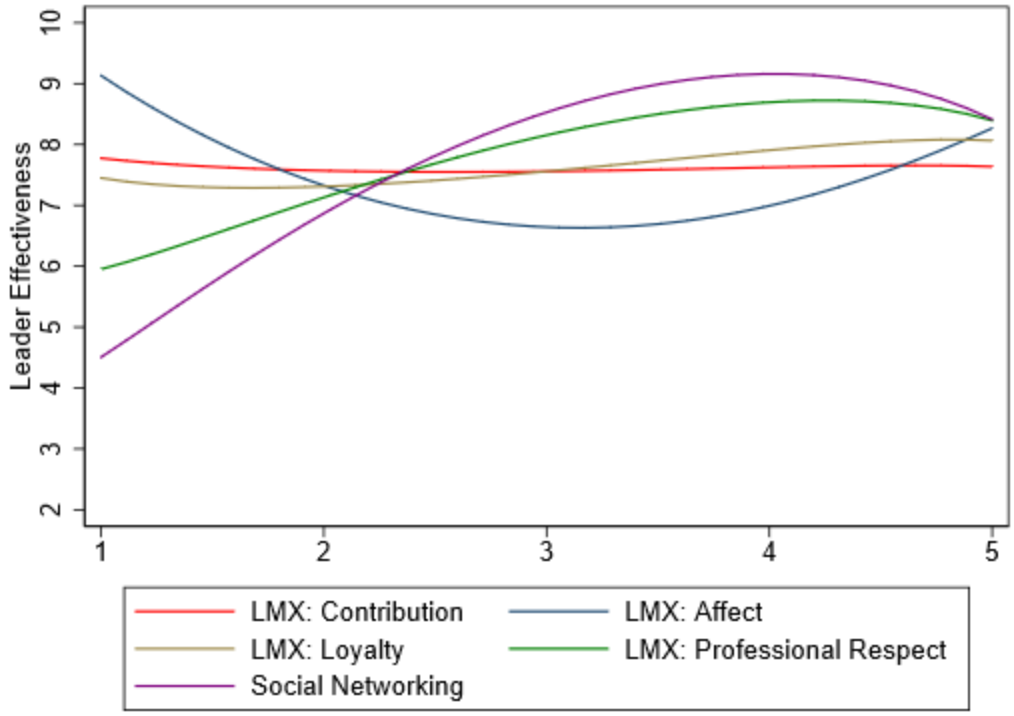


Figure A47.1. Judgment policy by leadership quality for Case 47 based on observed leader-effectiveness scores.

Case 47 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

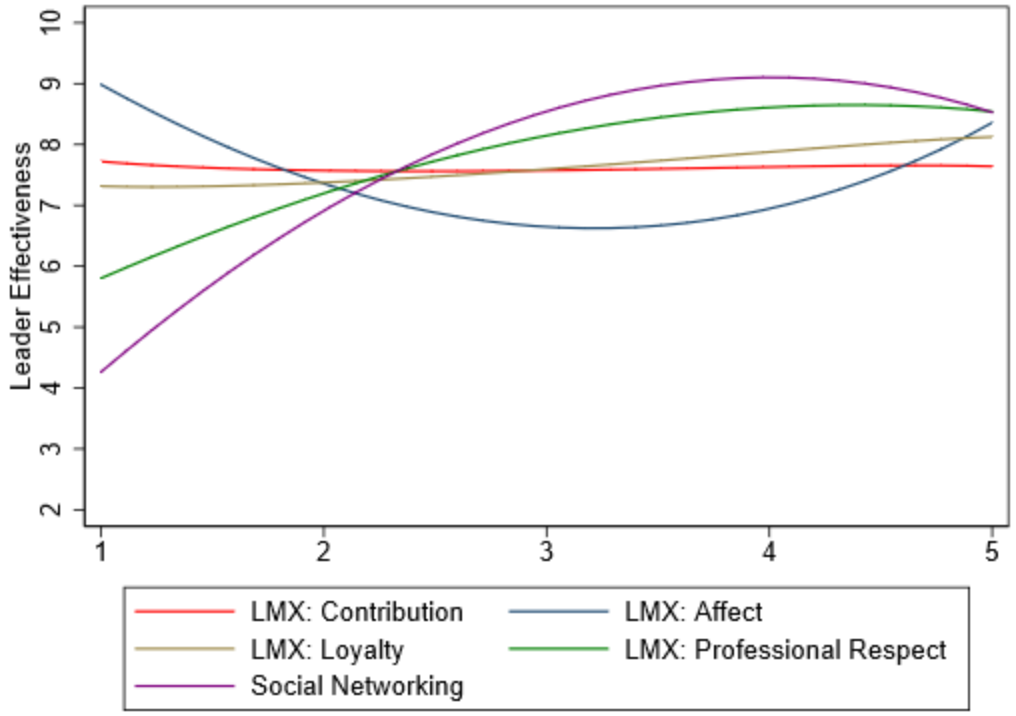


Figure A47.2. Judgment policy by leadership quality for Case 47 based on predicted leader-effectiveness scores from quadric regression.

Table A48.1

Case 48 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.66	0.95	0.70	.493	-1.29	2.60
contribution2	-0.12	0.16	-0.74	.465	-0.44	0.21
loyal	-2.68	1.01	-2.65	.014	-4.76	-0.60
loyal2	0.46	0.16	2.81	.009	0.12	0.80
affect	0.44	0.94	0.47	.646	-1.49	2.37
affect2	-0.02	0.16	-0.15	.880	-0.35	0.30
respect	1.37	0.91	1.50	.145	-0.51	3.25
respect2	-0.04	0.15	-0.29	.777	-0.35	0.27
network	2.09	0.98	2.13	.043	0.08	4.11
network2	-0.28	0.16	-1.76	.091	-0.61	0.05

Note. $F_{(10, 26)} = 43.23$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A48.2

Case 48 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.01	0.19	-0.05	.958	-0.01
loyal	0.14	0.20	0.70	.489	0.08
affect	0.32	0.19	1.67	.106	0.20
respect	1.06	0.18	5.74	.000	0.66
network	0.37	0.21	1.82	.078	0.21

Note. $F_{(5, 31)} = 74.51$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 48 Observed Judgment Policy of School Building Leader Effectiveness

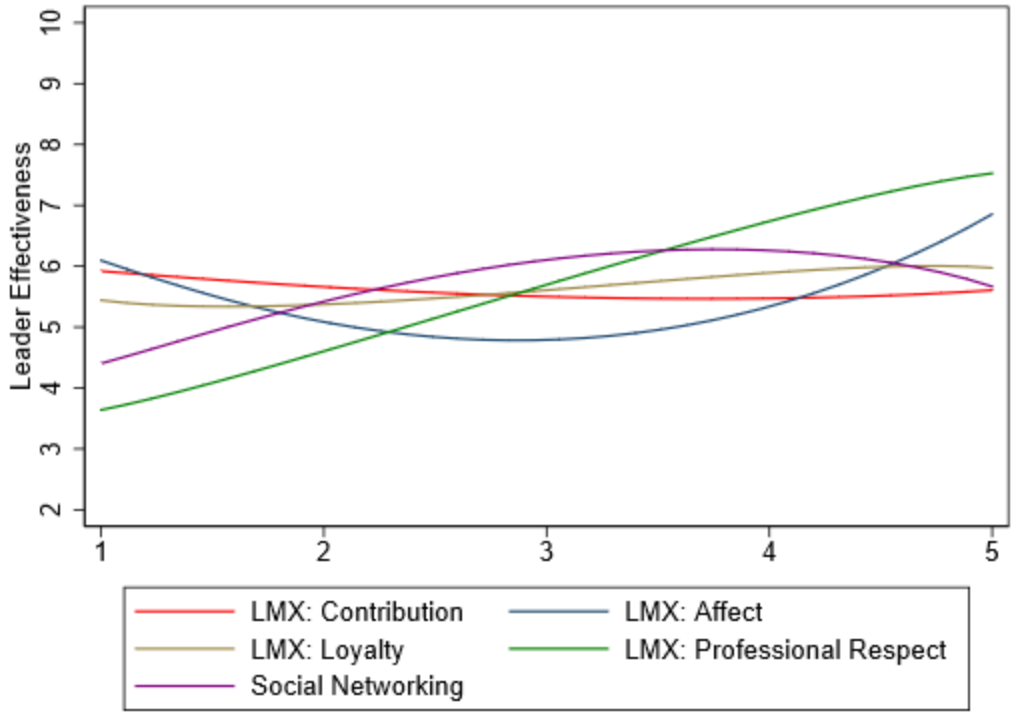


Figure A48.1. Judgment policy by leadership quality for Case 48 based on observed leader-effectiveness scores.

Case 48 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

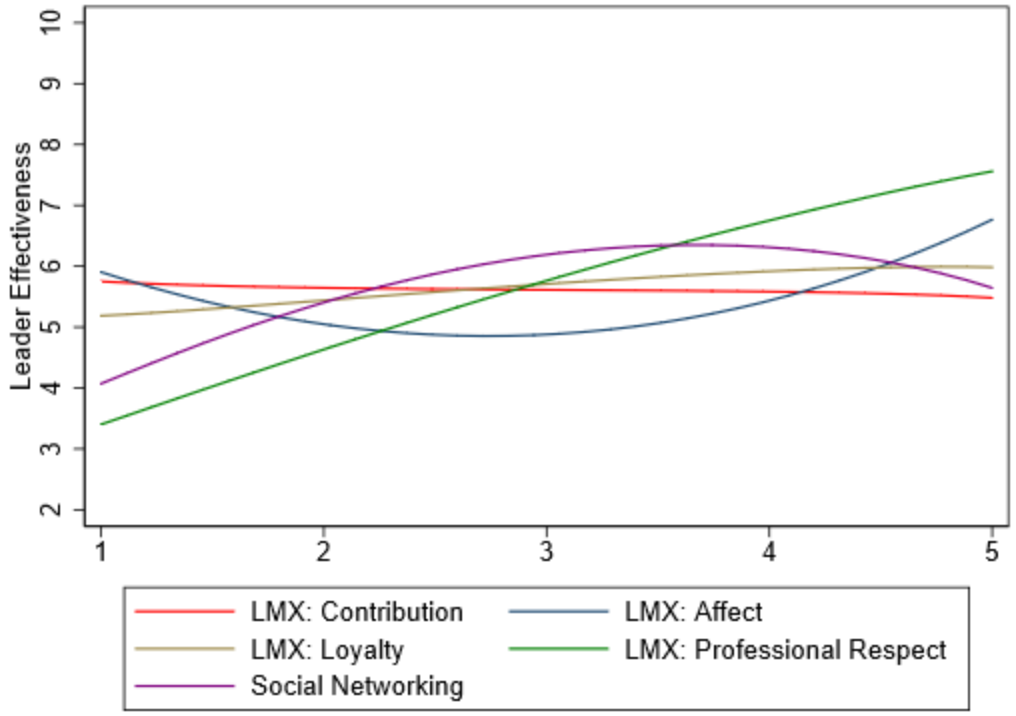


Figure A48.2. Judgment policy by leadership quality for Case 48 based on predicted leader-effectiveness scores from quadric regression.

Table A49.1

Case 49 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.26	0.87	0.30	.763	-1.52	2.05
contribution2	-0.05	0.14	-0.37	.712	-0.35	0.24
loyal	-0.30	0.93	-0.32	.753	-2.20	1.61
loyal2	0.06	0.15	0.43	.674	-0.25	0.37
affect	0.32	0.86	0.37	.716	-1.45	2.08
affect2	-0.06	0.14	-0.39	.701	-0.35	0.24
respect	1.28	0.84	1.53	.137	-0.44	3.00
respect2	-0.13	0.14	-0.92	.364	-0.41	0.16
network	1.44	0.90	1.61	.120	-0.40	3.29
network2	-0.16	0.15	-1.12	.274	-0.46	0.14

Note. $F_{(10, 26)} = 43.79$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A49.2

Case 49 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.08	0.16	0.51	.611	0.08
loyal	0.24	0.17	1.36	.184	0.21
affect	0.14	0.16	0.88	.386	0.13
respect	0.68	0.16	4.29	.000	0.62
network	0.60	0.18	3.41	.002	0.50

Note. $F_{(5, 31)} = 86.10$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 49 Observed Judgment Policy of School Building Leader Effectiveness

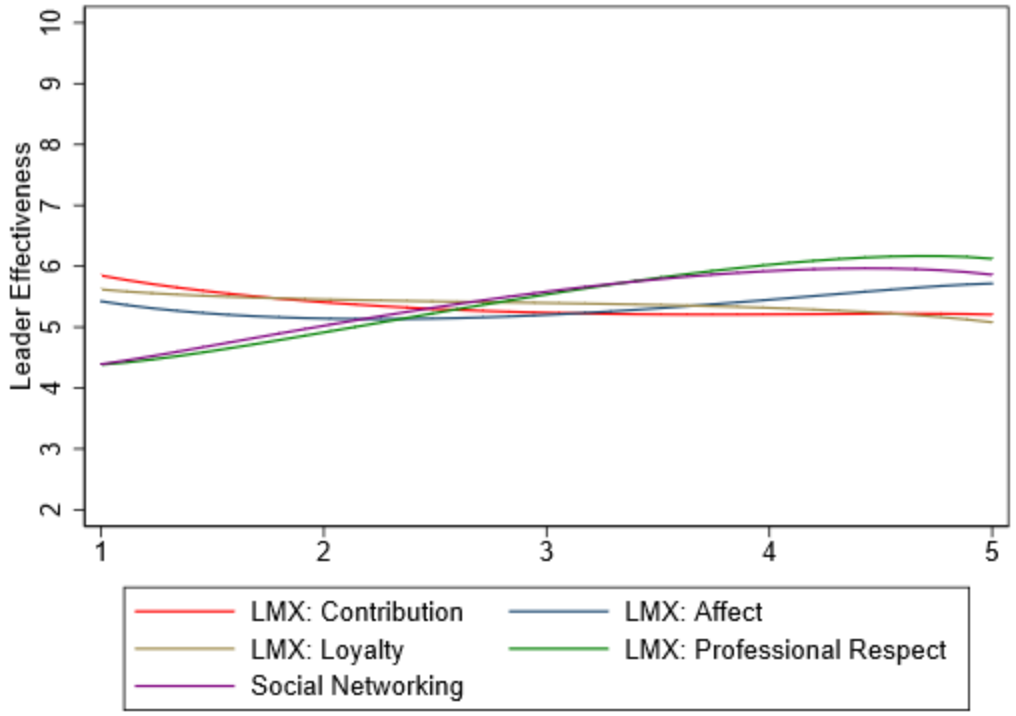


Figure A49.1. Judgment policy by leadership quality for Case 49 based on observed leader-effectiveness scores.

Case 49 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

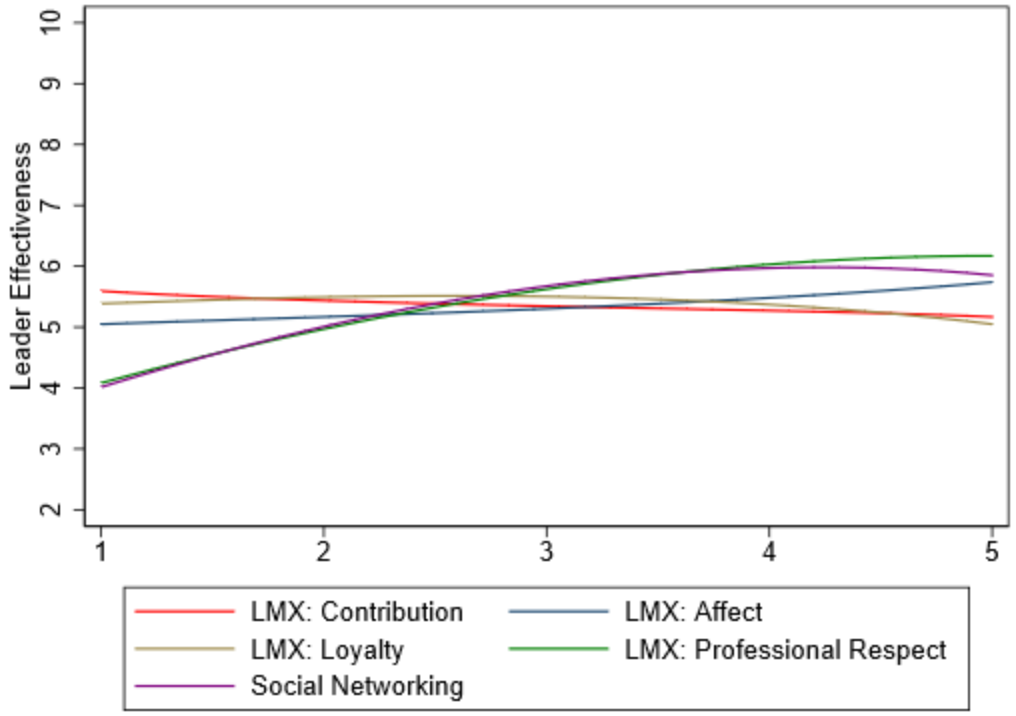


Figure A49.2. Judgment policy by leadership quality for Case 49 based on predicted leader-effectiveness scores from quadric regression.

Table A50.1

Case 50 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.16	1.32	0.12	.902	-2.55	2.88
contribution2	-0.03	0.22	-0.13	.897	-0.48	0.43
loyal	-2.12	1.41	-1.50	.146	-5.02	0.79
loyal2	0.44	0.23	1.93	.064	-0.03	0.92
affect	0.61	1.31	0.46	.648	-2.09	3.30
affect2	-0.08	0.22	-0.38	.703	-0.54	0.37
respect	1.69	1.28	1.33	.196	-0.93	4.31
respect2	-0.16	0.21	-0.78	.444	-0.60	0.27
network	2.96	1.37	2.16	.040	0.14	5.77
network2	-0.49	0.22	-2.22	.035	-0.95	-0.04

Note. $F_{(10, 26)} = 27.74$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A50.2

Case 50 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.17	0.26	0.64	.530	0.09
loyal	0.74	0.28	2.65	.013	0.39
affect	0.27	0.26	1.03	.311	0.15
respect	0.84	0.25	3.32	.002	0.47
network	0.08	0.28	0.27	.791	0.04

Note. $F_{(5, 31)} = 48.50$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 50 Observed Judgment Policy of School Building Leader Effectiveness

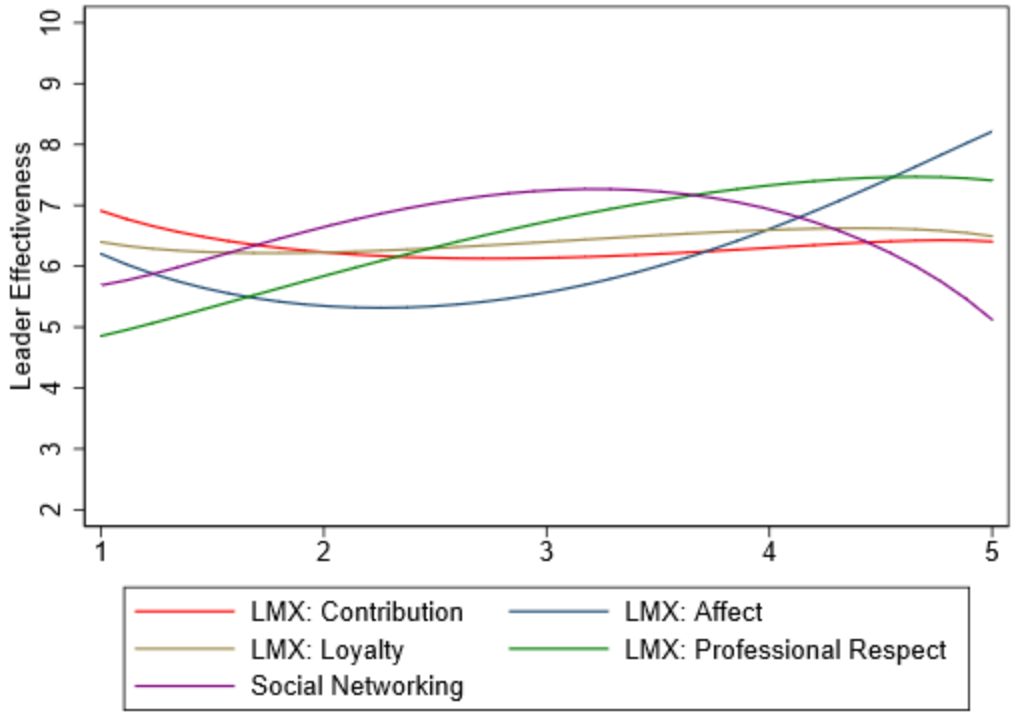


Figure A50.1. Judgment policy by leadership quality for Case 50 based on observed leader-effectiveness scores.

Case 50 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

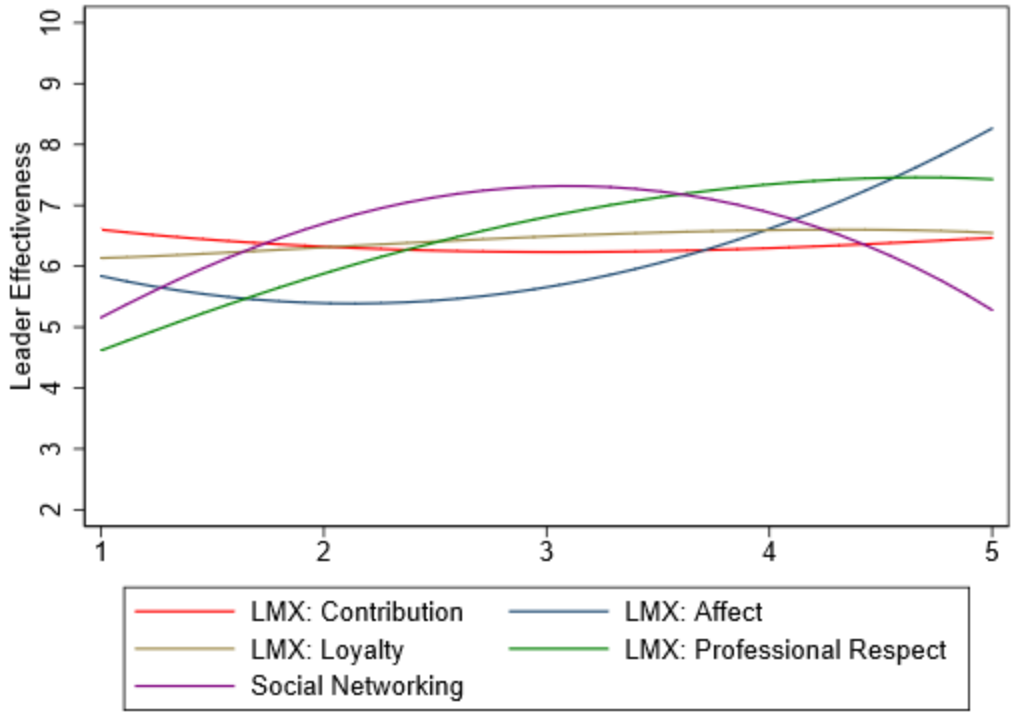


Figure A50.2. Judgment policy by leadership quality for Case 50 based on predicted leader-effectiveness scores from quadric regression.

Table A51.1

Case 51 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.89	0.92	2.05	.050	0.00	3.79
contribution2	-0.28	0.15	-1.83	.079	-0.60	0.04
loyal	0.62	0.99	0.63	.537	-1.41	2.64
loyal2	-0.10	0.16	-0.65	.522	-0.43	0.23
affect	0.70	0.91	0.76	.452	-1.18	2.58
affect2	-0.08	0.15	-0.55	.586	-0.40	0.23
respect	2.49	0.89	2.80	.009	0.66	4.32
respect2	-0.39	0.15	-2.68	.013	-0.70	-0.09
network	0.50	0.95	0.52	.607	-1.46	2.46
network2	-0.17	0.16	-1.09	.285	-0.49	0.15

Note. $F_{(10, 26)} = 68.10$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A51.2

Case 51 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.62	0.25	2.49	.019	0.59
loyal	0.41	0.27	1.54	.133	0.38
affect	0.69	0.25	2.73	.010	0.66
respect	0.63	0.24	2.58	.015	0.60
network	-0.05	0.27	-0.20	.845	-0.05

Note. $F_{(5, 31)} = 61.72$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 51 Observed Judgment Policy of School Building Leader Effectiveness

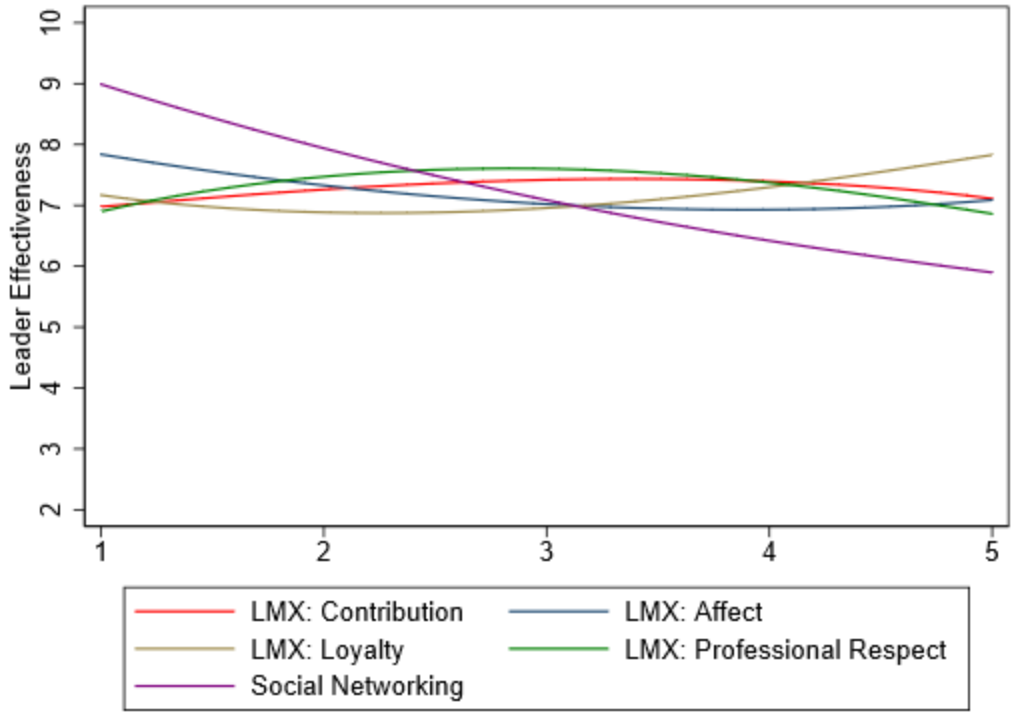


Figure A51.1. Judgment policy by leadership quality for Case 51 based on observed leader-effectiveness scores.

Case 51 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

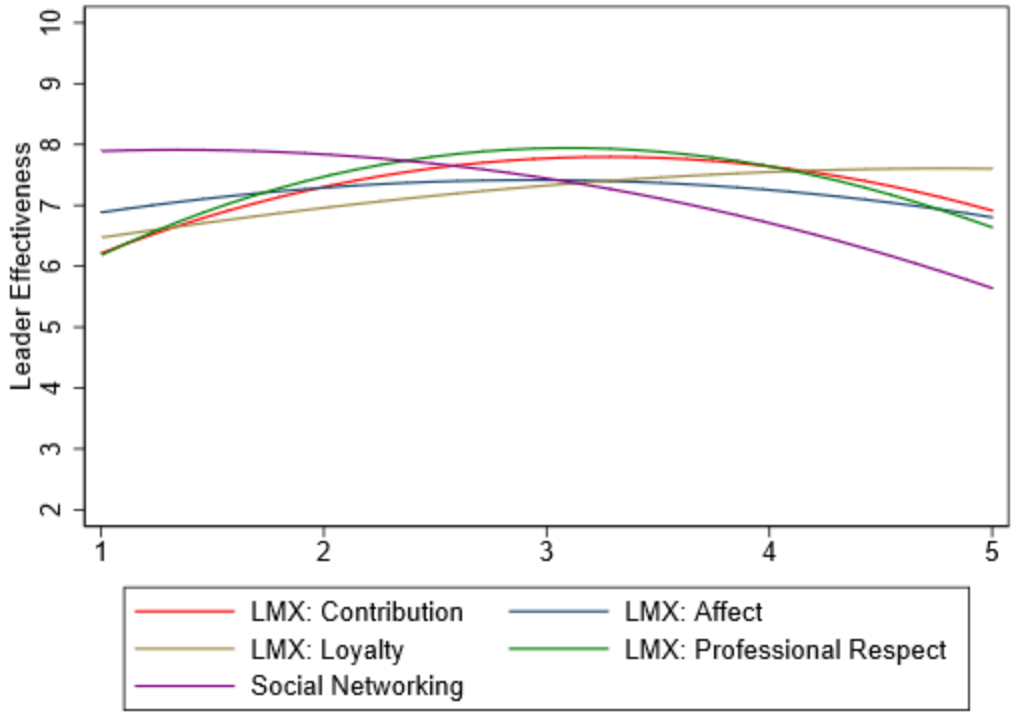


Figure A51.2. Judgment policy by leadership quality for Case 51 based on predicted leader-effectiveness scores from quadric regression.

Table A52.1

Case 52 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.99	0.78	1.27	.215	-0.61	2.59
contribution2	-0.15	0.13	-1.12	.273	-0.41	0.12
loyal	-0.39	0.83	-0.47	.642	-2.10	1.32
loyal2	0.13	0.13	0.98	.337	-0.15	0.41
affect	0.51	0.77	0.66	.515	-1.08	2.09
affect2	-0.13	0.13	-0.99	.330	-0.39	0.14
respect	0.69	0.75	0.92	.368	-0.86	2.23
respect2	0.01	0.12	0.09	.928	-0.24	0.27
network	0.47	0.81	0.59	.561	-1.18	2.13
network2	-0.07	0.13	-0.50	.623	-0.33	0.20

Note. $F_{(10, 26)} = 43.64$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A52.2

Case 52 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.14	1.36	.184	0.16
loyal	0.48	0.15	3.15	.004	0.37
affect	-0.15	0.14	-1.05	.302	-0.12
respect	0.83	0.14	5.95	.000	0.66
network	0.17	0.16	1.10	.280	0.12

Note. $F_{(5, 31)} = 89.58$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 52 Observed Judgment Policy of School Building Leader Effectiveness

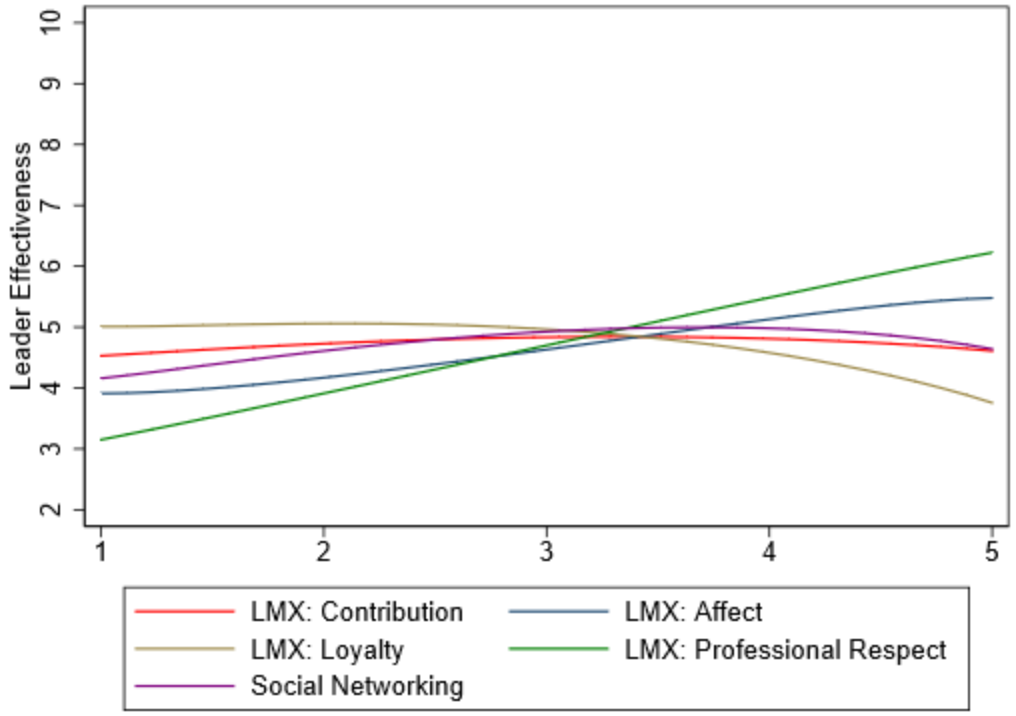


Figure A52.1. Judgment policy by leadership quality for Case 52 based on observed leader-effectiveness scores.

Case 52 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

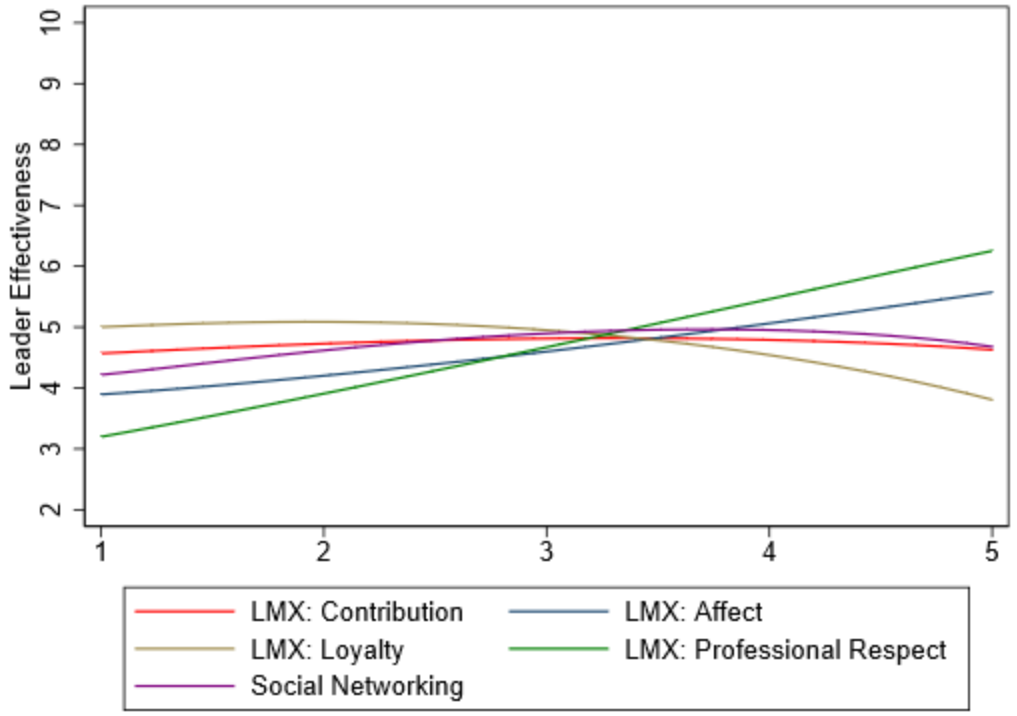


Figure A52.2. Judgment policy by leadership quality for Case 52 based on predicted leader-effectiveness scores from quadric regression.

Table A53.1

Case 53 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.87	1.12	0.77	.448	-1.45	3.18
contriutionb2	-0.09	0.19	-0.49	.627	-0.48	0.29
loyal	-1.88	1.20	-1.56	.131	-4.35	0.60
loyal2	0.35	0.20	1.81	.082	-0.05	0.75
affect	1.51	1.11	1.36	.186	-0.78	3.81
affect2	-0.28	0.19	-1.48	.152	-0.66	0.11
respect	0.68	1.09	0.62	.538	-1.55	2.91
respect2	0.02	0.18	0.13	.900	-0.35	0.39
network	1.03	1.16	0.88	.387	-1.37	3.42
network2	-0.12	0.19	-0.63	.533	-0.51	0.27

Note. $F_{(10, 26)} = 27.68$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A53.2

Case 53 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.35	0.21	1.66	.107	0.22
loyal	0.31	0.22	1.37	.181	0.18
affect	-0.06	0.21	-0.28	.785	-0.04
respect	0.83	0.20	4.07	.000	0.52
network	0.35	0.23	1.55	.132	0.20

Note. $F_{(5, 31)} = 54.85$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 53 Observed Judgment Policy of School Building Leader Effectiveness

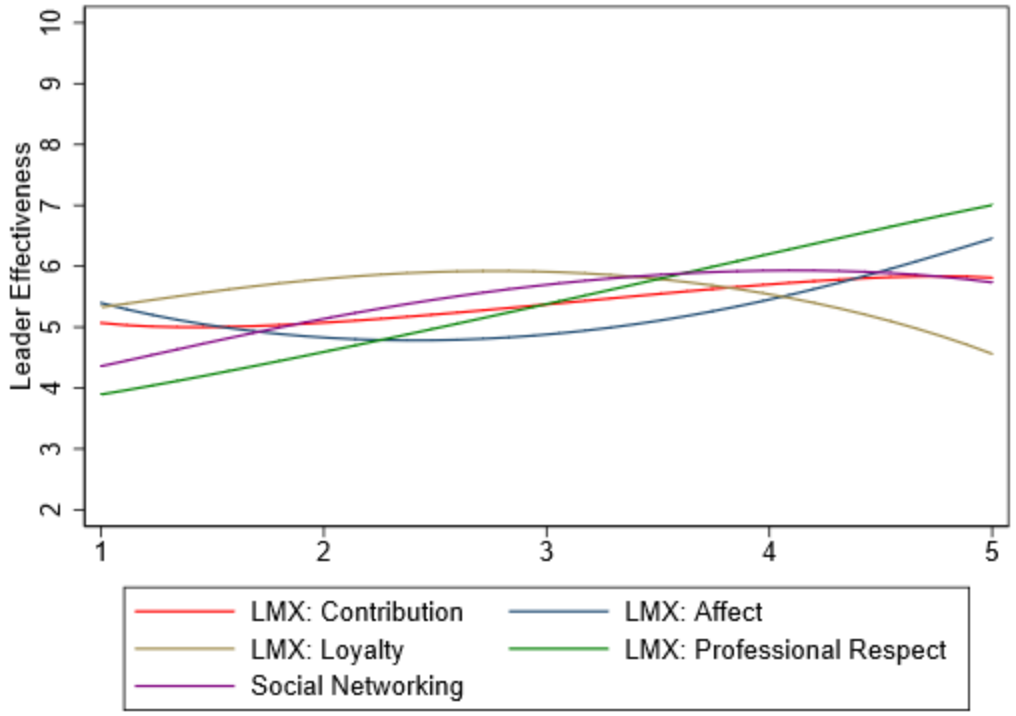


Figure A53.1. Judgment policy by leadership quality for Case 53 based on observed leader-effectiveness scores.

Case 53 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

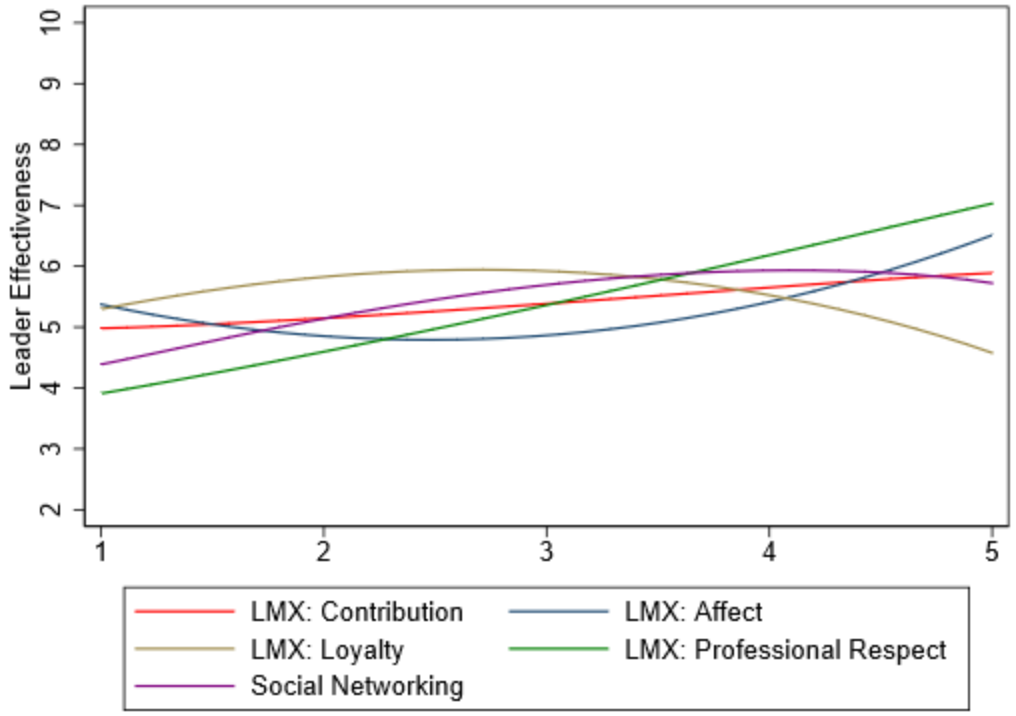


Figure A53.2. Judgment policy by leadership quality for Case 53 based on predicted leader-effectiveness scores from quadric regression.

Table A54.1

Case 54 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.42	0.92	0.46	.651	-1.46	2.30
contribution2	-0.06	0.15	-0.40	.690	-0.38	0.25
loyal	-1.24	0.98	-1.27	.217	-3.25	0.77
loyal2	0.24	0.16	1.53	.139	-0.08	0.57
affect	0.58	0.91	0.63	.532	-1.29	2.44
affect2	-0.09	0.15	-0.57	.575	-0.40	0.23
respect	1.64	0.88	1.86	.075	-0.17	3.46
respect2	-0.16	0.15	-1.08	.292	-0.46	0.14
network	2.15	0.95	2.27	.032	0.20	4.10
network2	-0.28	0.15	-1.81	.082	-0.60	0.04

Note. $F_{(10, 26)} = 65.73$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A54.2

Case 54 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.20	0.18	1.13	.266	0.15
loyal	0.39	0.19	2.02	.052	0.28
affect	0.23	0.18	1.27	.213	0.17
respect	0.85	0.18	4.83	.000	0.63
network	0.60	0.20	3.07	.004	0.41

Note. $F_{(5, 31)} = 117.89$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 54 Observed Judgment Policy of School Building Leader Effectiveness

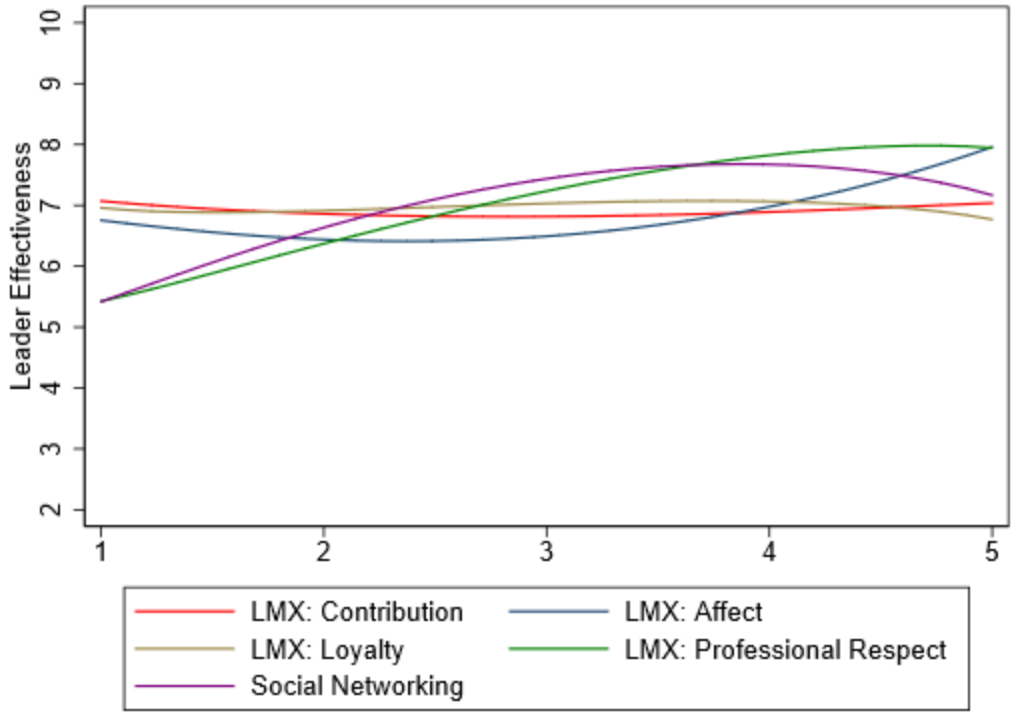


Figure A54.1. Judgment policy by leadership quality for Case 54 based on observed leader-effectiveness scores.

Case 54 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

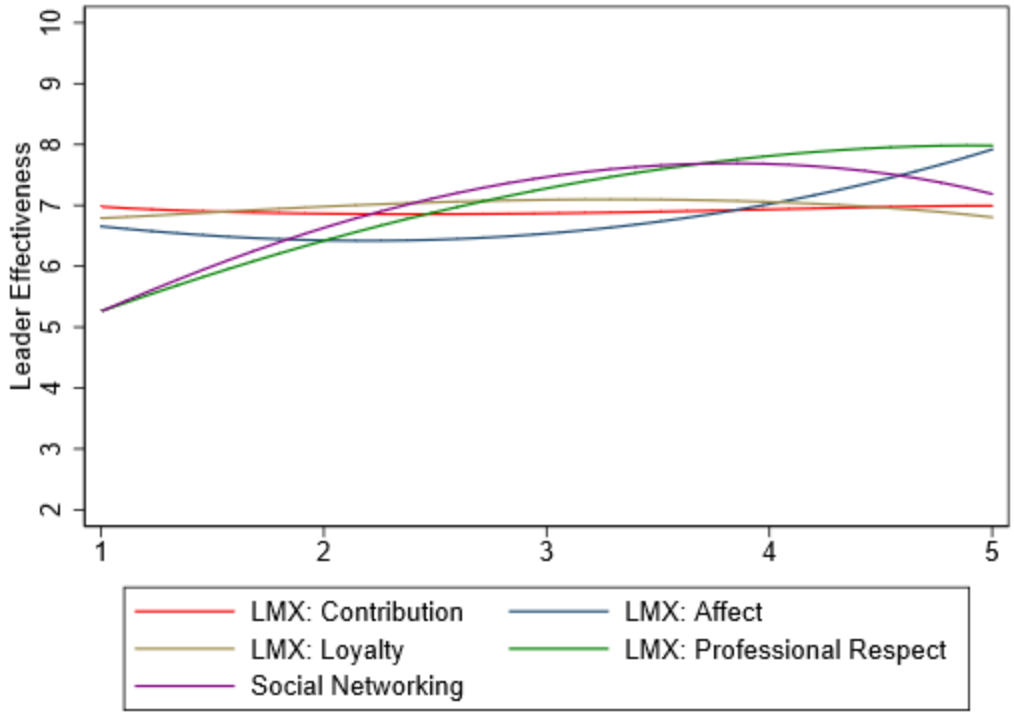


Figure A54.2. Judgment policy by leadership quality for Case 54 based on predicted leader-effectiveness scores from quadric regression.

Table A55.1

Case 55 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.26	0.65	0.40	.693	-1.08	1.60
contribution2	-0.03	0.11	-0.29	.777	-0.26	0.19
loyal	-0.98	0.70	-1.41	.171	-2.42	0.45
loyal2	0.18	0.11	1.59	.124	-0.05	0.41
affect	0.94	0.65	1.45	.159	-0.39	2.27
affect2	-0.14	0.11	-1.31	.200	-0.37	0.08
respect	1.26	0.63	1.99	.057	-0.04	2.55
respect2	-0.07	0.10	-0.63	.531	-0.28	0.15
network	0.38	0.68	0.57	.576	-1.01	1.77
network2	-0.02	0.11	-0.22	.824	-0.25	0.20

Note. $F_{(10, 26)} = 59.48$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A55.2

Case 55 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.09	0.12	0.79	.437	0.09
loyal	0.14	0.13	1.11	.276	0.13
affect	0.14	0.12	1.15	.261	0.13
respect	0.88	0.12	7.47	.000	0.80
network	0.28	0.13	2.10	.043	0.23

Note. $F_{(5, 31)} = 122.15$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 55 Observed Judgment Policy of School Building Leader Effectiveness

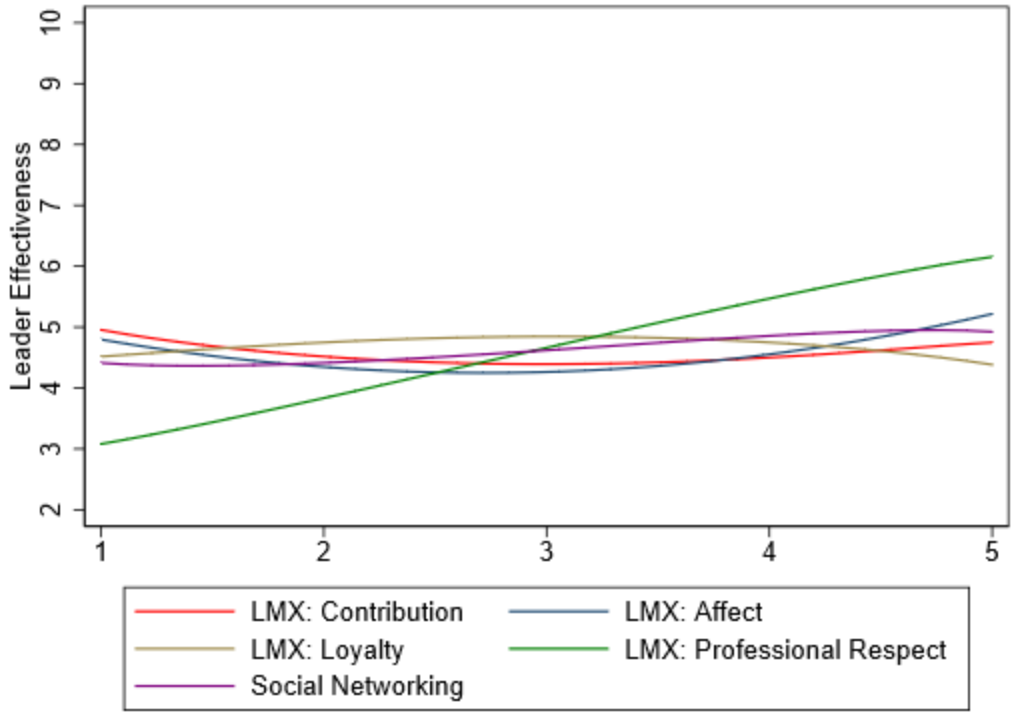


Figure A55.1. Judgment policy by leadership quality for Case 55 based on observed leader-effectiveness scores.

Case 55 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

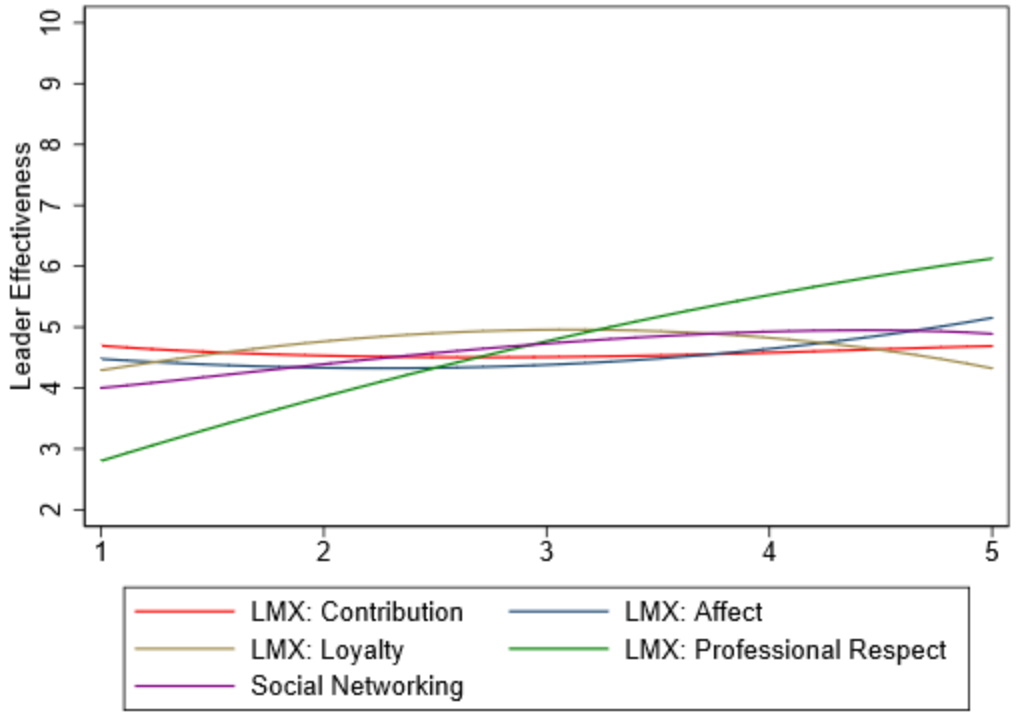


Figure A55.2. Judgment policy by leadership quality for Case 55 based on predicted leader-effectiveness scores from quadric regression.

Table A56.1

Case 56 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.14	0.86	0.17	.870	-1.63	1.92
contribution2	-0.03	0.14	-0.18	.858	-0.32	0.27
loyal	-0.28	0.92	-0.30	.768	-2.18	1.62
loyal2	0.07	0.15	0.44	.663	-0.24	0.37
affect	1.25	0.86	1.46	.157	-0.51	3.01
affect2	-0.20	0.14	-1.38	.178	-0.50	0.10
respect	0.51	0.83	0.61	.546	-1.21	2.23
respect2	-0.01	0.14	-0.08	.934	-0.30	0.27
network	0.56	0.90	0.63	.534	-1.28	2.40
network2	-0.03	0.15	-0.20	.842	-0.33	0.27

Note. $F_{(10, 26)} = 29.22$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A56.2

Case 56 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.05	0.16	0.31	.757	0.04
loyal	0.20	0.17	1.18	.248	0.17
affect	0.16	0.16	1.02	.315	0.15
respect	0.54	0.15	3.53	.001	0.49
network	0.48	0.17	2.85	.008	0.40

Note. $F_{(5, 31)} = 62.08$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 56 Observed Judgment Policy of School Building Leader Effectiveness

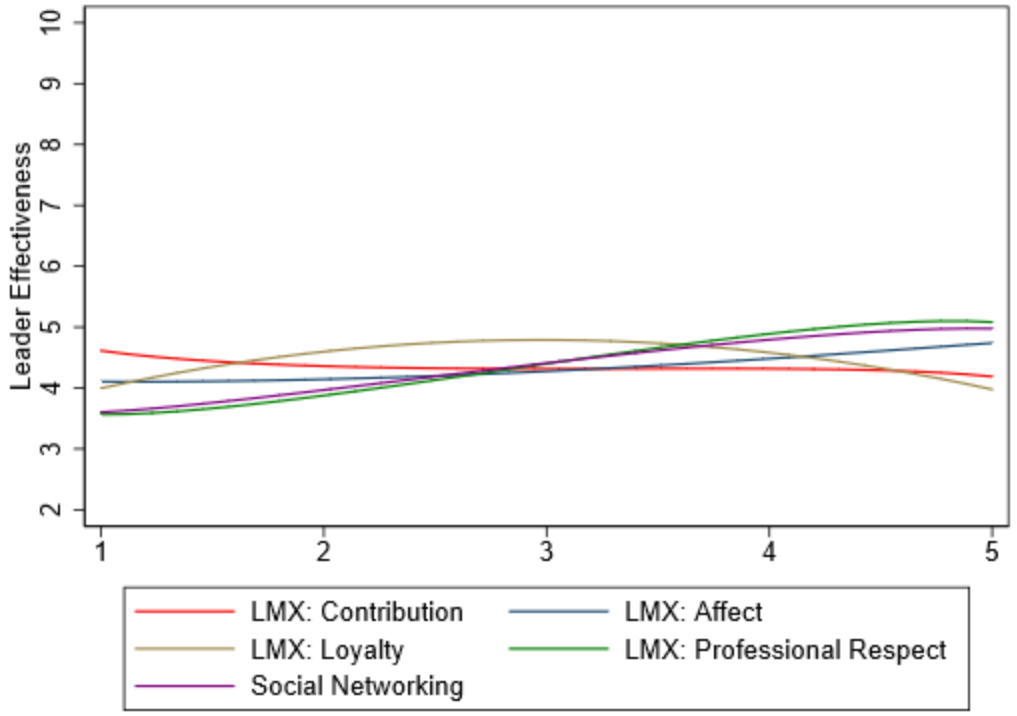


Figure A56.1. Judgment policy by leadership quality for Case 56 based on observed leader-effectiveness scores.

Case 56 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

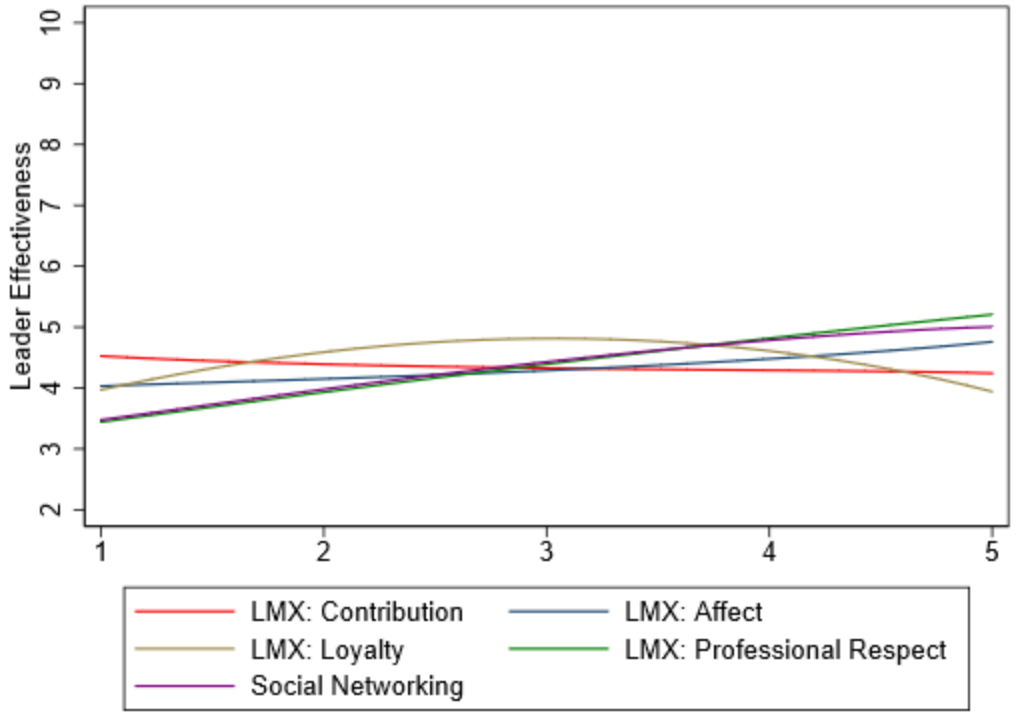


Figure A56.2. Judgment policy by leadership quality for Case 56 based on predicted leader-effectiveness scores from quadric regression.

Table A57.1

Case 57 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.13	1.60	-0.08	.938	-3.42	3.17
contribution2	-0.01	0.27	-0.03	.978	-0.56	0.54
loyal	-0.77	1.71	-0.45	.655	-4.28	2.74
loyal2	0.15	0.28	0.54	.593	-0.42	0.72
affect	-0.51	1.64	-0.31	.756	-3.88	2.86
affect2	0.12	0.28	0.43	.674	-0.46	0.69
respect	2.42	1.55	1.56	.130	-0.76	5.60
respect2	-0.16	0.26	-0.64	.530	-0.69	0.36
network	1.22	1.66	0.73	.470	-2.20	4.64
network2	-0.21	0.27	-0.77	.449	-0.76	0.35

Note. $F_{(10, 25)} = 14.47$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .79$

Table A57.2

Case 57 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.10	0.28	-0.36	.721	-0.05
loyal	0.22	0.31	0.72	.477	0.10
affect	0.24	0.29	0.81	.422	0.10
respect	1.47	0.27	5.36	.000	0.66
network	-0.01	0.30	-0.03	.979	0.00

Note. $F_{(5, 30)} = 32.69$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .82$

Case 57 Observed Judgment Policy of School Building Leader Effectiveness

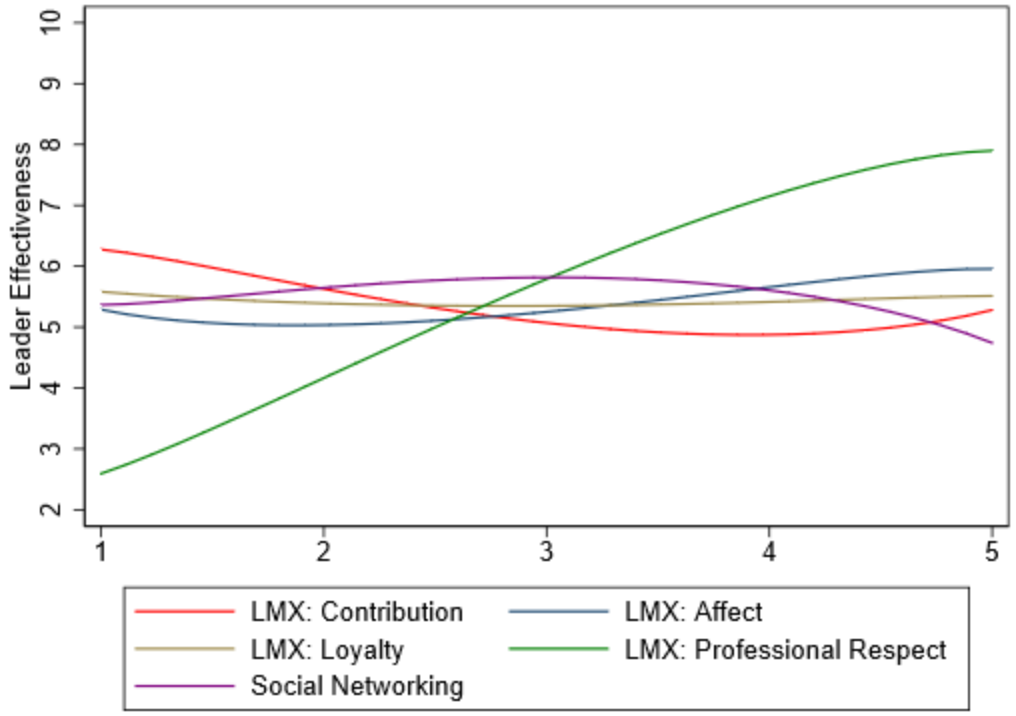


Figure A57.1. Judgment policy by leadership quality for Case 57 based on observed leader-effectiveness scores.

Case 57 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

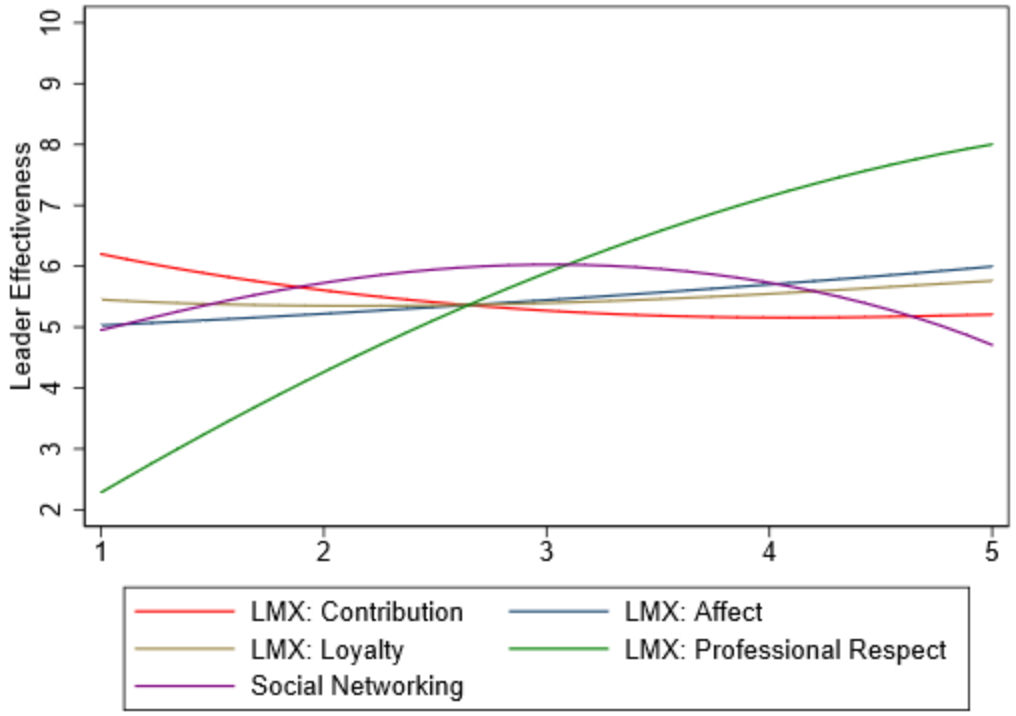


Figure A57.2. Judgment policy by leadership quality for Case 57 based on predicted leader-effectiveness scores from quadric regression.

Table A58.1

Case 58 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.16	0.89	0.18	.857	-1.66	1.99
contribution2	-0.05	0.15	-0.33	.741	-0.35	0.26
loyal	-1.23	0.95	-1.29	.208	-3.18	0.73
loyal2	0.19	0.15	1.24	.228	-0.13	0.51
affect	0.03	0.88	0.03	.974	-1.78	1.84
affect2	-0.02	0.15	-0.13	.901	-0.32	0.29
respect	1.54	0.86	1.80	.083	-0.22	3.31
respect2	-0.05	0.14	-0.35	.731	-0.34	0.24
network	2.16	0.92	2.35	.027	0.27	4.05
network2	-0.32	0.15	-2.12	.044	-0.62	-0.01

Note. $F_{(10, 26)} = 46.12$ ($p < .001$), R2 = .947, Adjusted R2 = .93

Table A58.2

Case 58 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.01	0.17	-0.03	.976	0.00
loyal	0.04	0.18	0.23	.818	0.02
affect	0.04	0.17	0.22	.826	0.02
respect	1.36	0.17	8.23	.000	0.82
network	0.34	0.18	1.82	.078	0.18

Note. $F_{(5, 31)} = 87.28$ ($p < .001$), R2 = .934, Adjusted R2 = .92

Case 58 Observed Judgment Policy of School Building Leader Effectiveness

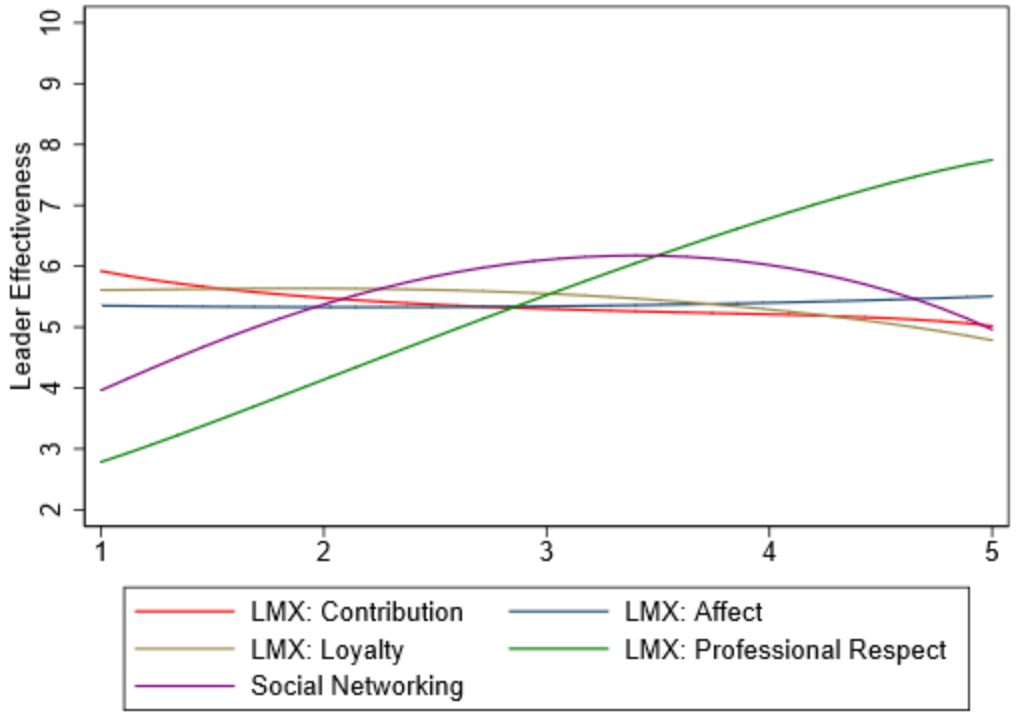


Figure A58.1. Judgment policy by leadership quality for Case 58 based on observed leader-effectiveness scores.

Case 58 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

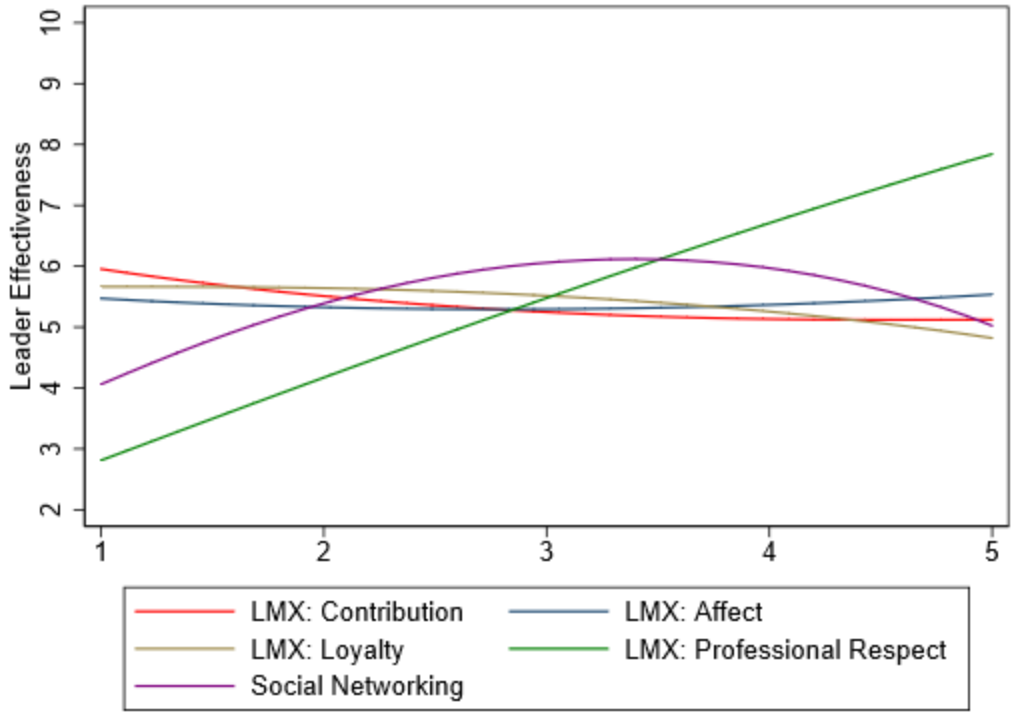


Figure A58.2. Judgment policy by leadership quality for Case 58 based on predicted leader-effectiveness scores from quadric regression.

Table A59.1

Case 59 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.06	0.81	-0.08	.939	-1.72	1.60
contribution2	0.03	0.13	0.20	.841	-0.25	0.30
loyal	-0.60	0.86	-0.69	.496	-2.37	1.18
loyal2	0.13	0.14	0.95	.353	-0.16	0.42
affect	1.12	0.80	1.40	.174	-0.53	2.76
affect2	-0.16	0.13	-1.17	.252	-0.43	0.12
respect	0.73	0.78	0.93	.360	-0.87	2.33
respect2	-0.05	0.13	-0.39	.702	-0.31	0.22
network	1.38	0.84	1.65	.111	-0.34	3.10
network2	-0.11	0.14	-0.80	.431	-0.39	0.17

Note. $F_{(10, 26)} = 63.45$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A59.2

Case 59 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.16	0.15	1.08	.289	0.14
loyal	0.27	0.16	1.73	.093	0.23
affect	0.26	0.15	1.75	.090	0.23
respect	0.50	0.14	3.53	.001	0.45
network	0.79	0.16	4.96	.000	0.63

Note. $F_{(5, 31)} = 134.75$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 59 Observed Judgment Policy of School Building Leader Effectiveness

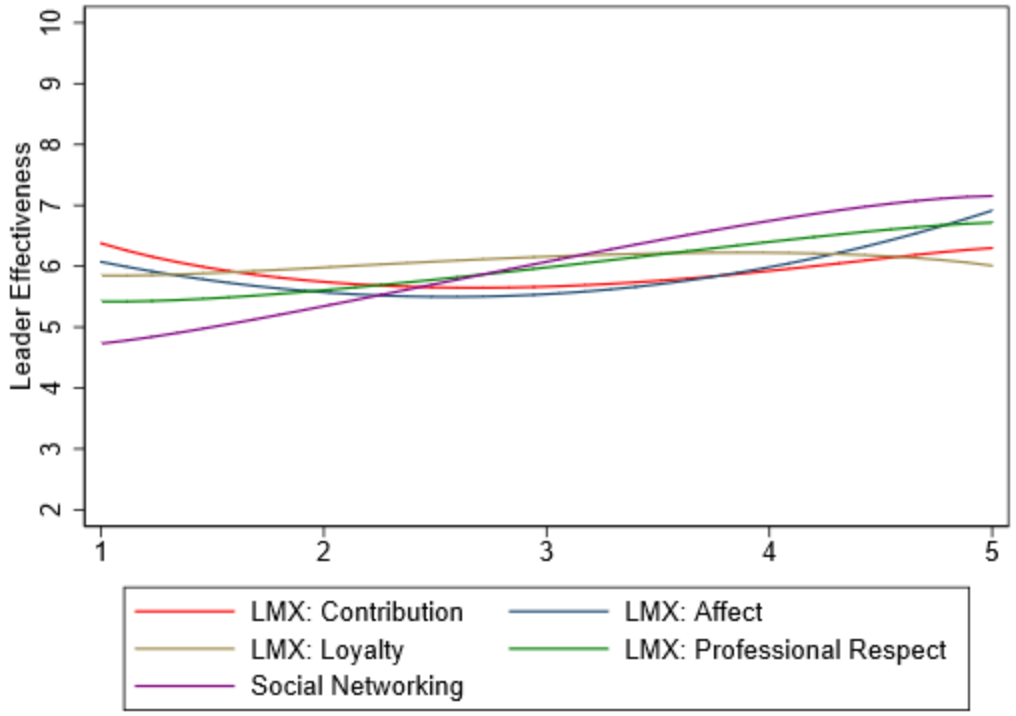


Figure A59.1. Judgment policy by leadership quality for Case 59 based on observed leader-effectiveness scores.

Case 59 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

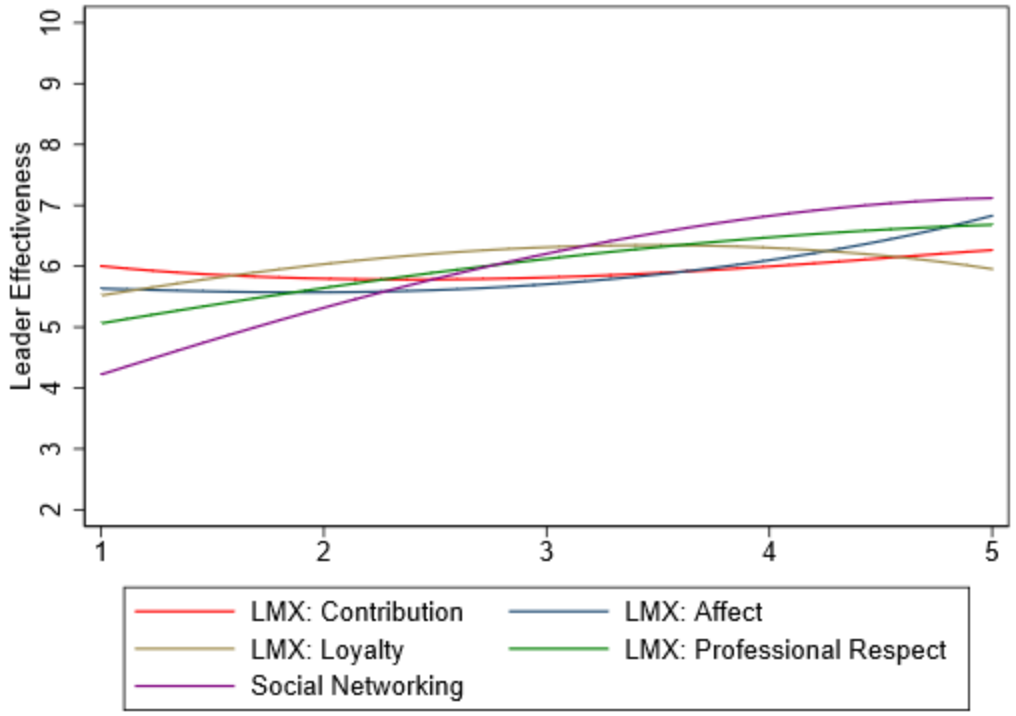


Figure A59.2. Judgment policy by leadership quality for Case 59 based on predicted leader-effectiveness scores from quadric regression.

Table A60.1

Case 60 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.48	1.10	-0.43	.668	-2.73	1.78
contribution2	0.08	0.18	0.41	.684	-0.30	0.45
loyal	-0.76	1.17	-0.65	.523	-3.17	1.65
loyal2	0.15	0.19	0.81	.425	-0.24	0.55
affect	-0.08	1.09	-0.08	.940	-2.32	2.15
affect2	-0.01	0.18	-0.07	.943	-0.39	0.36
respect	1.30	1.06	1.22	.232	-0.88	3.47
respect2	-0.19	0.18	-1.07	.295	-0.55	0.17
network	3.29	1.14	2.89	.008	0.95	5.62
network2	-0.46	0.18	-2.49	.020	-0.84	-0.08

Note. $F_{(10, 26)} = 26.14$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A60.2

Case 60 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.22	0.86	.397	0.14
loyal	0.38	0.24	1.62	.116	0.26
affect	0.04	0.22	0.18	.861	0.03
respect	0.41	0.22	1.88	.069	0.29
network	0.67	0.24	2.78	.009	0.43

Note. $F_{(5, 31)} = 43.68$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 60 Observed Judgment Policy of School Building Leader Effectiveness

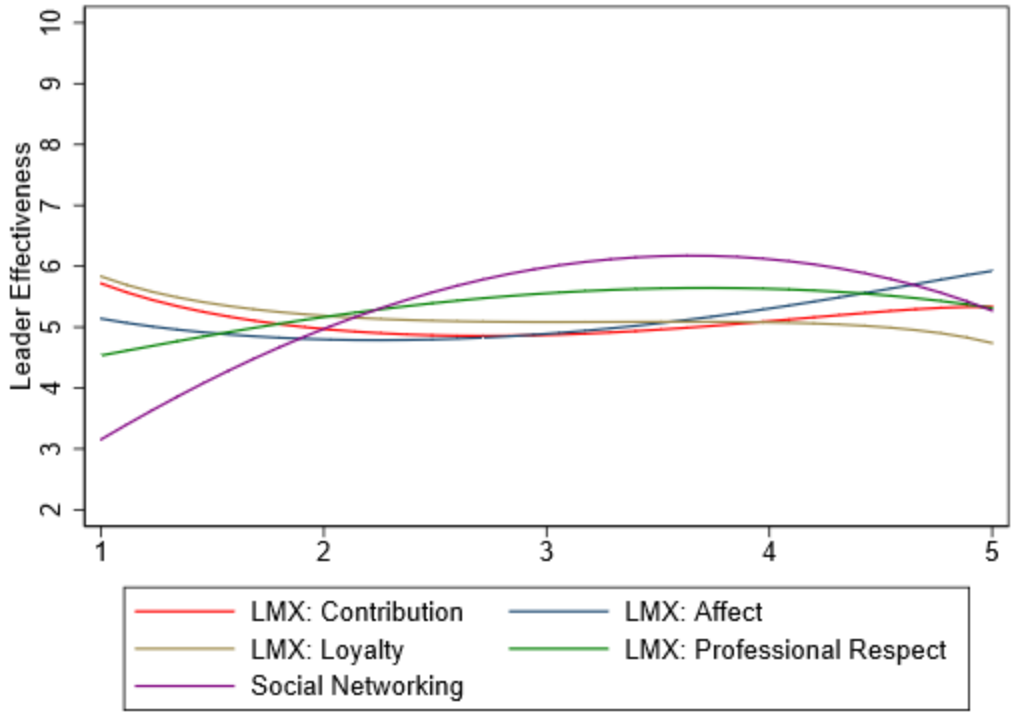


Figure A3.1. Judgment policy by leadership quality for Case 60 based on observed leader-effectiveness scores.

Case 60 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

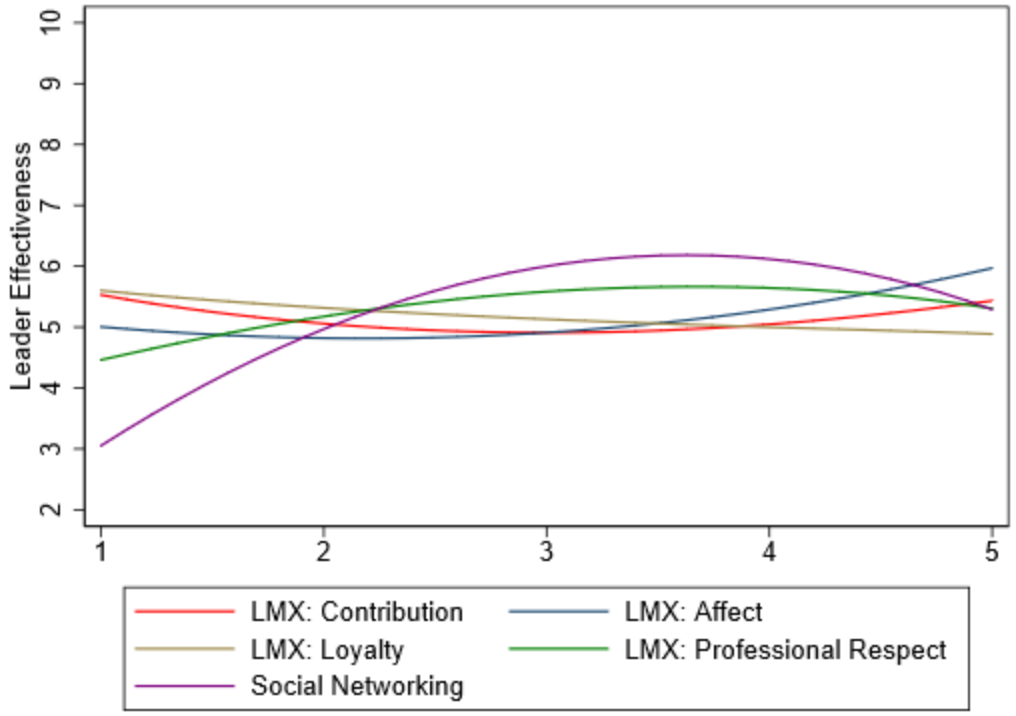


Figure A60.2. Judgment policy by leadership quality for Case 60 based on predicted leader-effectiveness scores from quadric regression.

Table A61.1

Case 61 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.46	1.16	1.26	.217	-0.92	3.84
contribution2	-0.20	0.19	-1.03	.314	-0.60	0.20
loyal	-3.37	1.24	-2.73	.011	-5.91	-0.83
loyal2	0.59	0.20	2.95	.007	0.18	1.01
affect	1.74	1.15	1.52	.141	-0.62	4.10
affect2	-0.27	0.19	-1.38	.180	-0.66	0.13
respect	1.98	1.12	1.77	.088	-0.32	4.28
respect2	-0.17	0.18	-0.93	.361	-0.55	0.21
network	1.12	1.20	0.93	.359	-1.34	3.58
network2	-0.15	0.19	-0.77	.450	-0.55	0.25

Note. $F_{(10, 26)} = 38.81$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A61.2

Case 61 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.34	0.23	1.45	.156	0.20
loyal	0.31	0.25	1.23	.227	0.17
affect	0.29	0.24	1.22	.233	0.17
respect	0.96	0.23	4.16	.000	0.56
network	0.30	0.26	1.17	.251	0.16

Note. $F_{(5, 31)} = 64.23$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 61 Observed Judgment Policy of School Building Leader Effectiveness

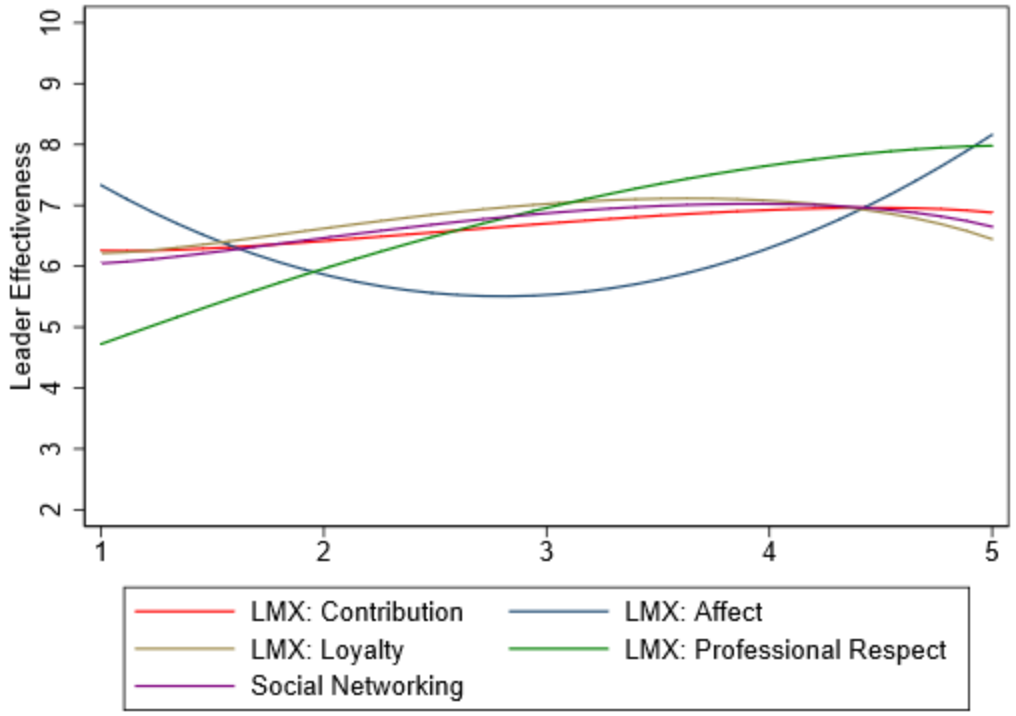


Figure A61.1. Judgment policy by leadership quality for Case 61 based on observed leader-effectiveness scores.

Case 61 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

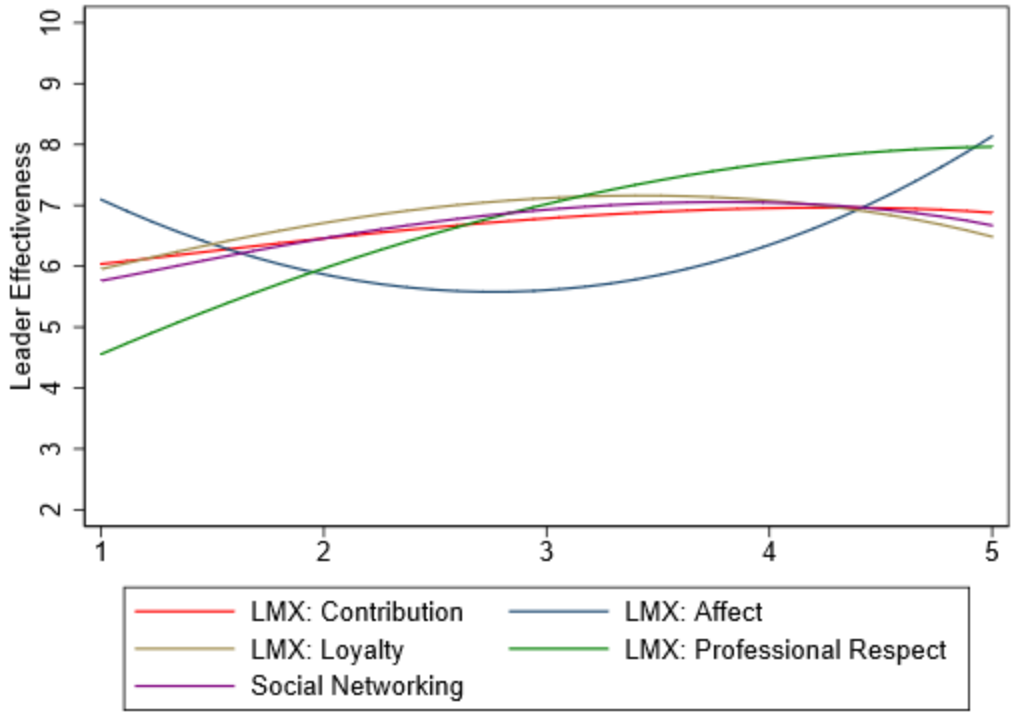


Figure A61.2. Judgment policy by leadership quality for Case 61 based on predicted leader-effectiveness scores from quadric regression.

Table A62.1

Case 62 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.12	1.35	0.09	.931	-2.66	2.90
contribution2	0.03	0.23	0.13	.898	-0.44	0.49
loyal	-1.31	1.45	-0.91	.373	-4.28	1.66
loyal2	0.24	0.23	1.03	.312	-0.24	0.72
affect	0.21	1.34	0.16	.877	-2.55	2.97
affect2	-0.06	0.23	-0.25	.804	-0.52	0.41
respect	0.21	1.31	0.16	.875	-2.48	2.89
respect2	0.17	0.22	0.80	.429	-0.27	0.62
network	1.86	1.40	1.33	.196	-1.02	4.74
network2	-0.21	0.23	-0.91	.370	-0.68	0.26

Note. $F_{(10, 26)} = 20.01$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A62.2

Case 62 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.25	0.24	1.02	.315	0.12
loyal	0.09	0.26	0.34	.733	0.04
affect	-0.21	0.25	-0.84	.408	-0.10
respect	1.15	0.24	4.86	.000	0.55
network	0.50	0.26	1.89	.068	0.22

Note. $F_{(5, 31)} = 42.88$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 62 Observed Judgment Policy of School Building Leader Effectiveness

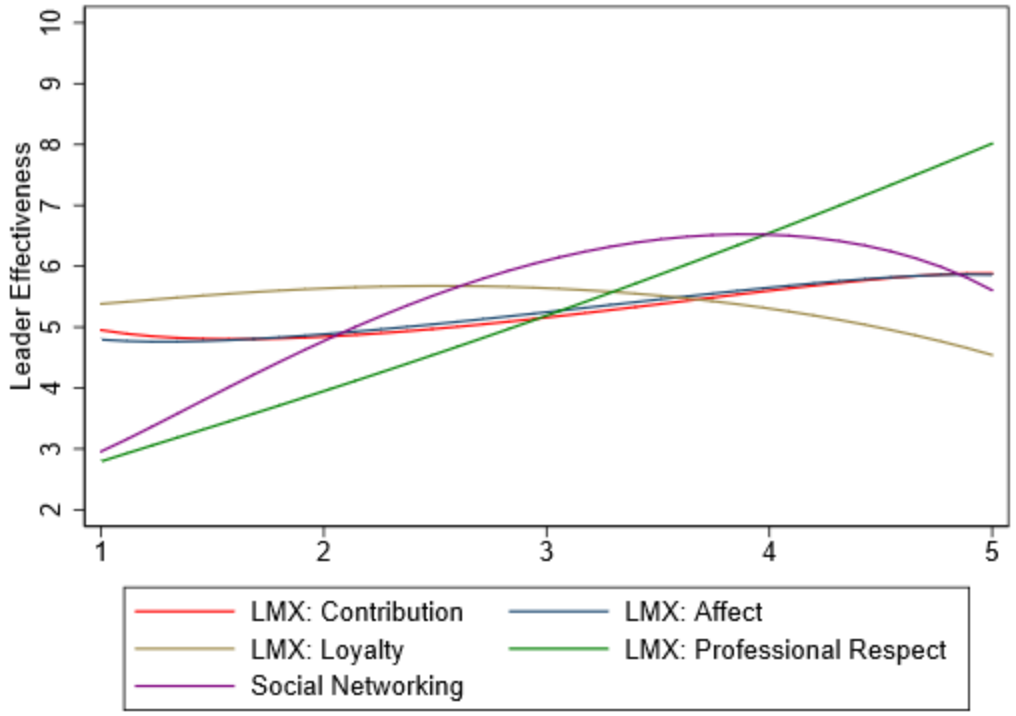


Figure A62.1. Judgment policy by leadership quality for Case 62 based on observed leader-effectiveness scores.

Case 62 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

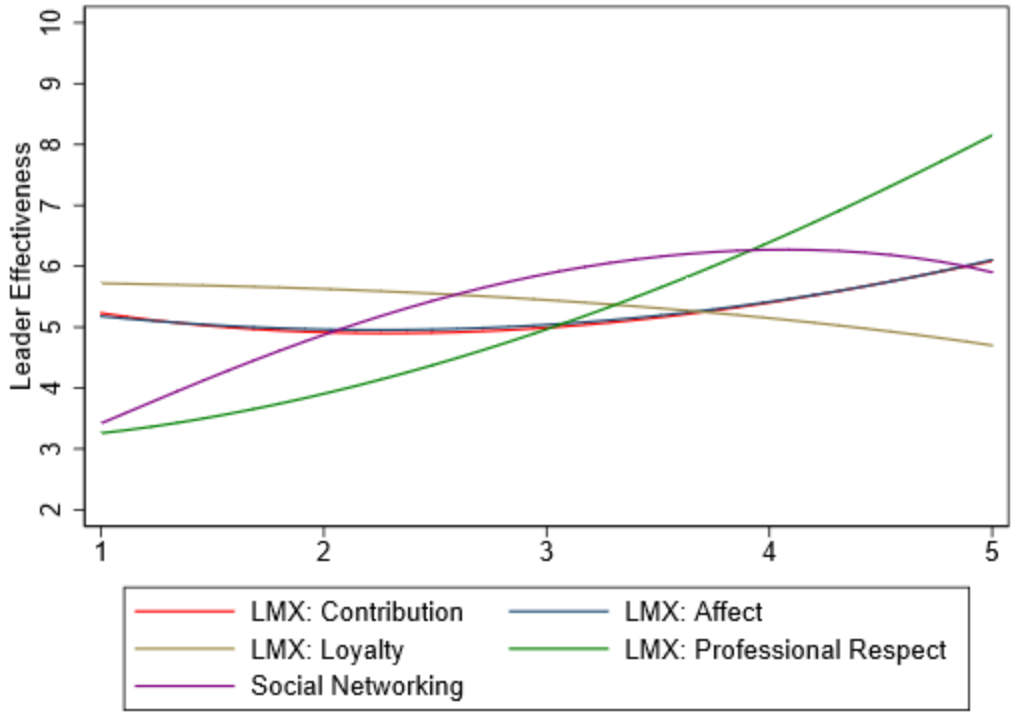


Figure A62.2. Judgment policy by leadership quality for Case 62 based on predicted leader-effectiveness scores from quadric regression.

Table A63.1

Case 63 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.52	1.28	-0.41	.689	-3.15	2.11
contribution2	0.18	0.21	0.83	.413	-0.26	0.62
loyal	-0.54	1.37	-0.40	.695	-3.36	2.27
loyal2	0.12	0.22	0.53	.600	-0.34	0.57
affect	1.39	1.27	1.09	.284	-1.22	4.00
affect2	-0.20	0.21	-0.92	.364	-0.64	0.24
respect	1.47	1.24	1.19	.244	-1.07	4.01
respect2	-0.19	0.20	-0.94	.356	-0.61	0.23
network	1.28	1.33	0.97	.343	-1.45	4.01
network2	-0.22	0.22	-1.03	.312	-0.67	0.22

Note. $F_{(10, 26)} = 23.51$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A63.2

Case 63 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.67	0.24	2.82	.008	0.43
loyal	0.31	0.25	1.23	.227	0.19
affect	0.36	0.24	1.50	.145	0.23
respect	0.50	0.23	2.15	.039	0.32
network	0.07	0.26	0.26	.794	0.04

Note. $F_{(5, 31)} = 47.39$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .87$

Case 63 Observed Judgment Policy of School Building Leader Effectiveness

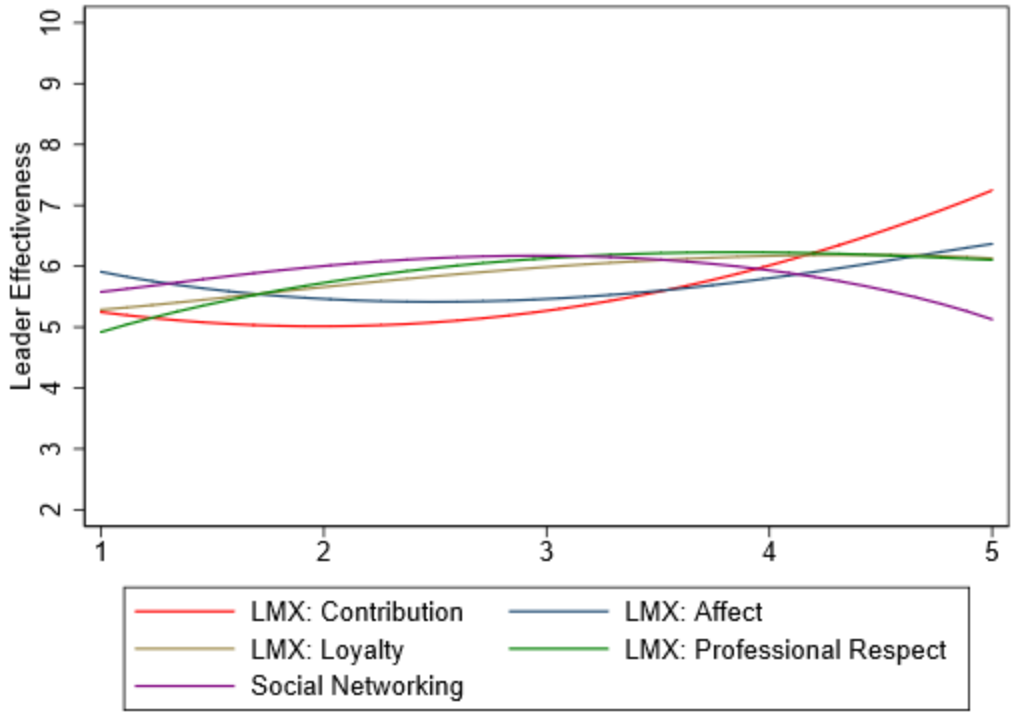


Figure A63.1. Judgment policy by leadership quality for Case 63 based on observed leader-effectiveness scores.

Case 63 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

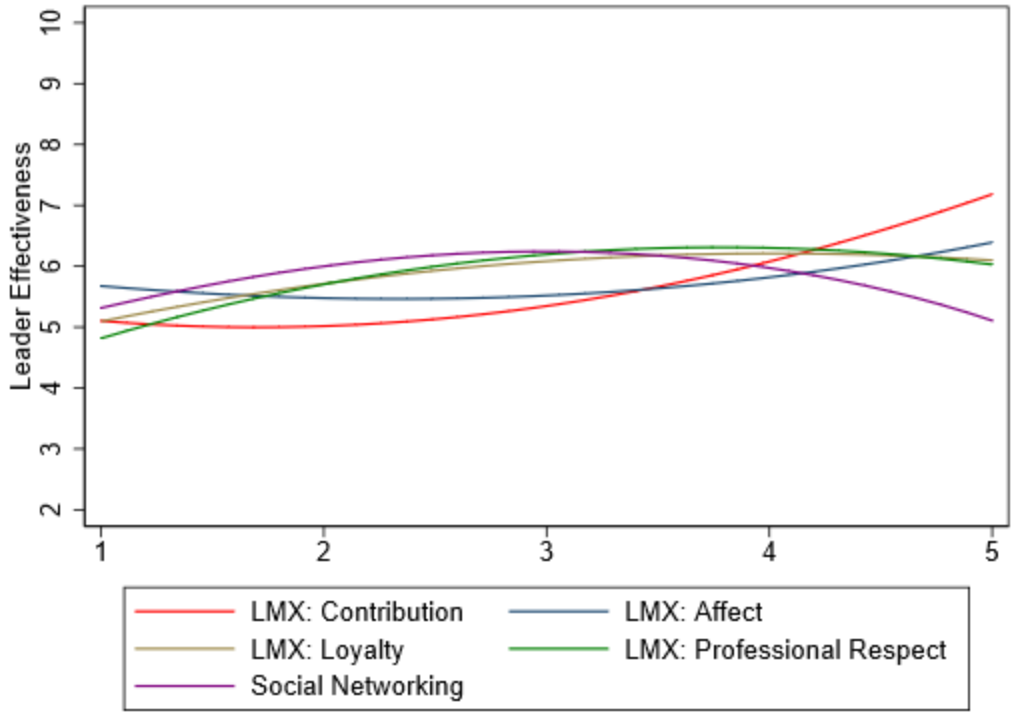


Figure A63.2. Judgment policy by leadership quality for Case 63 based on predicted leader-effectiveness scores from quadric regression.

Table A64.1

Case 64 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.86	1.16	-0.74	.463	-3.24	1.52
contribution2	0.14	0.19	0.72	.475	-0.26	0.54
loyal	-2.42	1.24	-1.96	.061	-4.97	0.12
loyal2	0.42	0.20	2.09	.047	0.01	0.83
affect	1.92	1.15	1.67	.106	-0.44	4.28
affect2	-0.35	0.19	-1.80	.084	-0.74	0.05
respect	1.79	1.12	1.60	.122	-0.51	4.08
respect2	-0.09	0.19	-0.47	.642	-0.47	0.29
network	1.98	1.20	1.65	.111	-0.49	4.44
network2	-0.25	0.19	-1.30	.203	-0.66	0.15

Note. $F_{(10, 26)} = 32.02$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A64.2

Case 64 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.01	0.23	0.07	.948	0.01
loyal	0.18	0.24	0.73	.469	0.08
affect	-0.07	0.23	-0.31	.755	-0.04
respect	1.32	0.22	5.93	.000	0.65
network	0.49	0.25	1.97	.058	0.22

Note. $F_{(5, 31)} = 56.86$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 64 Observed Judgment Policy of School Building Leader Effectiveness

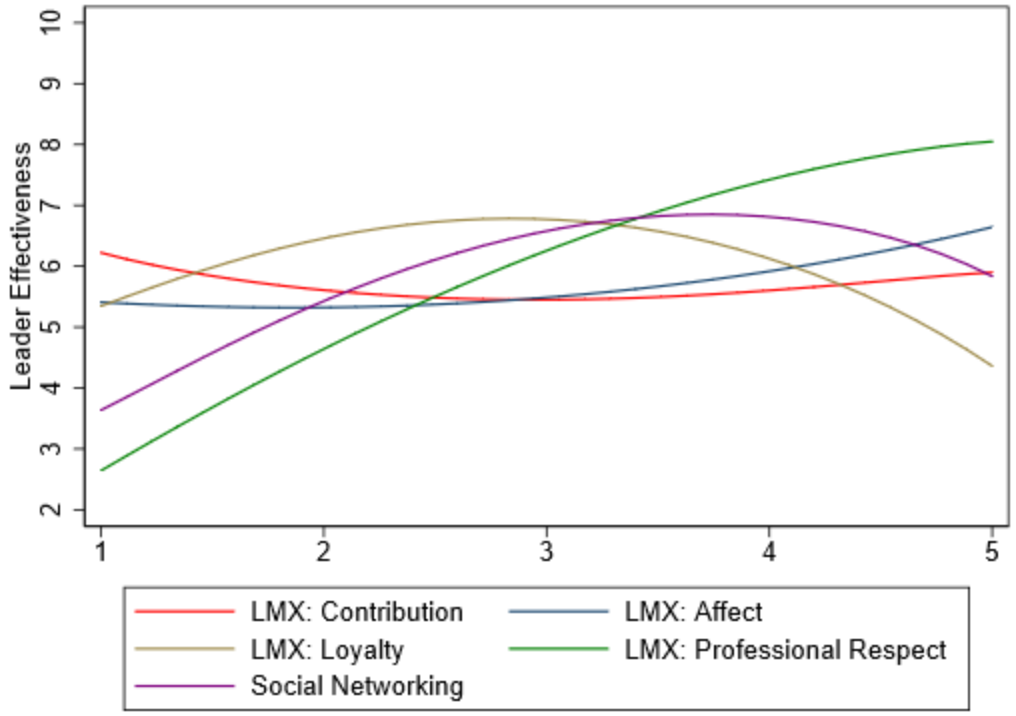


Figure A64.1. Judgment policy by leadership quality for Case 64 based on observed leader-effectiveness scores.

Case 64 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

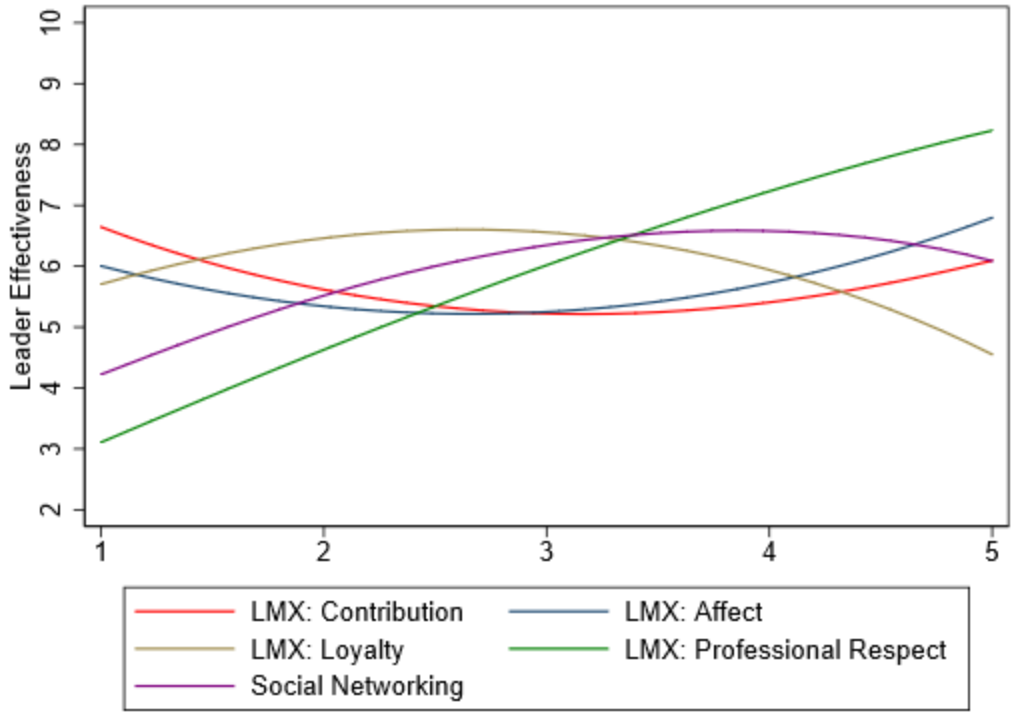


Figure A64.2. Judgment policy by leadership quality for Case 64 based on predicted leader-effectiveness scores from quadric regression.

Table A65.1

Case 65 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.32	0.99	-0.32	.751	-2.35	1.72
contribution2	0.05	0.17	0.31	.759	-0.29	0.39
loyal	-2.19	1.06	-2.07	.049	-4.36	-0.01
loyal2	0.37	0.17	2.18	.038	0.02	0.73
affect	0.60	0.98	0.61	.547	-1.42	2.61
affect2	-0.10	0.16	-0.63	.537	-0.44	0.24
respect	2.81	0.96	2.94	.007	0.84	4.77
respect2	-0.32	0.16	-2.03	.053	-0.65	0.00
network	2.09	1.02	2.04	.052	-0.02	4.19
network2	-0.29	0.17	-1.75	.092	-0.63	0.05

Note. $F_{(10, 26)} = 41.10$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A65.2

Case 65 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.20	0.56	.580	0.07
loyal	0.23	0.22	1.05	.300	0.14
affect	0.14	0.21	0.66	.515	0.09
respect	0.99	0.20	5.00	.000	0.64
network	0.44	0.22	1.98	.057	0.26

Note. $F_{(5, 31)} = 66.21$ ($p < .001$), $R^2 = .91$ Adjusted $R^2 = .90$

Case 65 Observed Judgment Policy of School Building Leader Effectiveness

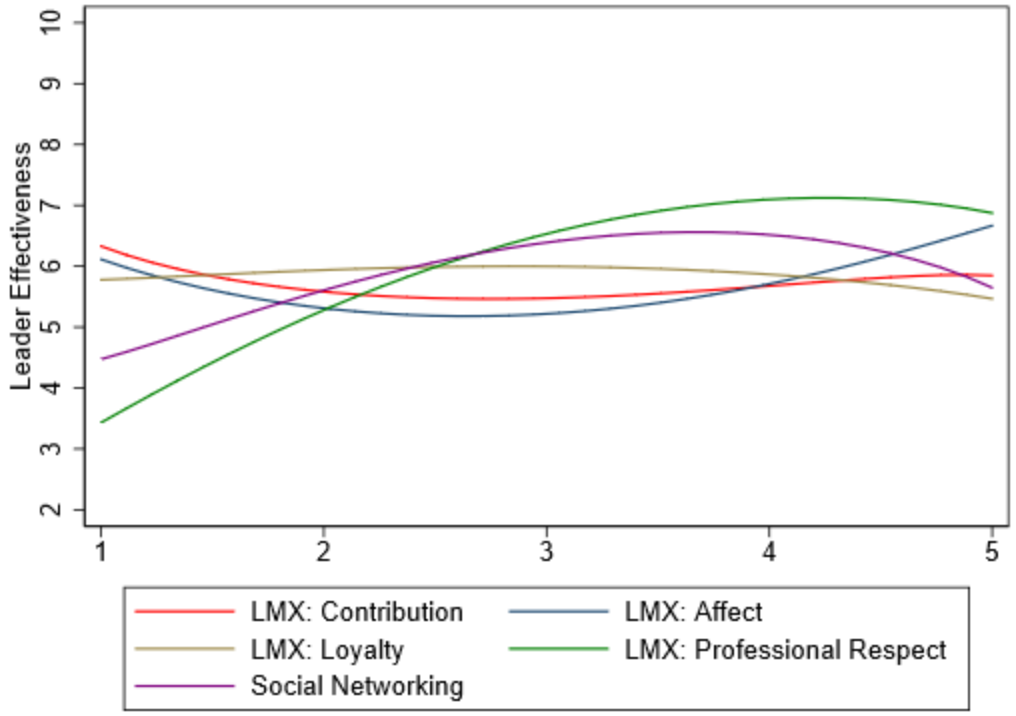


Figure A65.1. Judgment policy by leadership quality for Case 65 based on observed leader-effectiveness scores.

Case 65 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

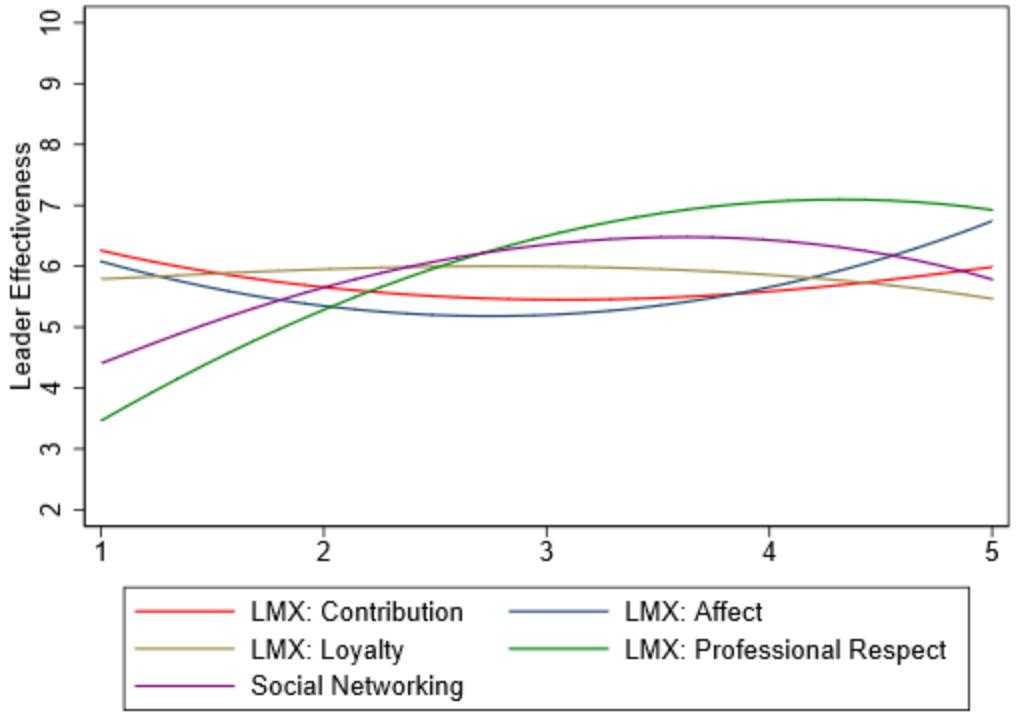


Figure A65.2. Judgment policy by leadership quality for Case 65 based on predicted leader-effectiveness scores from quadric regression.

Table A66.1

Case 66 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.06	0.89	1.19	.245	-0.77	2.90
contribution2	-0.16	0.15	-1.07	.297	-0.47	0.15
loyal	-0.91	0.95	-0.96	.347	-2.87	1.05
loyal2	0.19	0.15	1.22	.235	-0.13	0.51
affect	0.75	0.88	0.85	.404	-1.07	2.57
affect2	-0.14	0.15	-0.95	.353	-0.45	0.16
respect	1.48	0.86	1.72	.097	-0.29	3.25
respect2	-0.11	0.14	-0.77	.448	-0.40	0.18
network	0.12	0.92	0.13	.901	-1.78	2.02
network2	-0.01	0.15	-0.05	.962	-0.32	0.30

Note. $F_{(10, 26)} = 36.51$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A66.2

Case 66 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.17	1.14	.262	0.15
loyal	0.32	0.18	1.80	.082	0.24
affect	0.04	0.17	0.23	.821	0.03
respect	0.90	0.16	5.54	.000	0.69
network	0.18	0.18	1.02	.314	0.13

Note. $F_{(5, 31)} = 73.53$ ($p < .001$), $R^2 = .922$, Adjusted $R^2 = .91$

Case 66 Observed Judgment Policy of School Building Leader Effectiveness

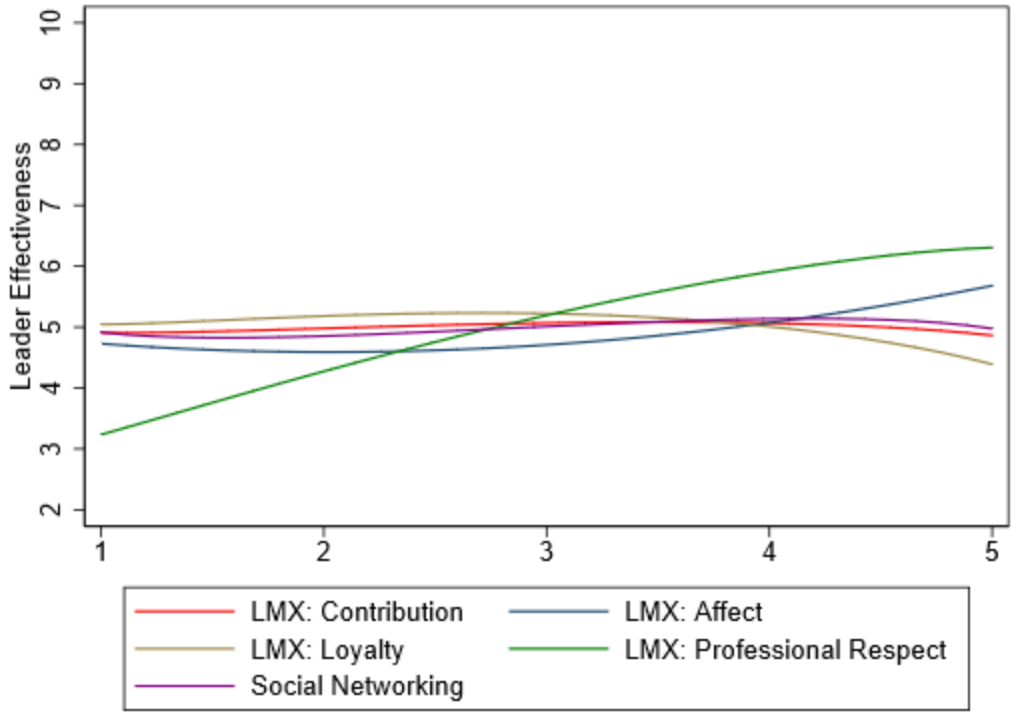


Figure A66.1. Judgment policy by leadership quality for Case 66 based on observed leader-effectiveness scores.

Case 66 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

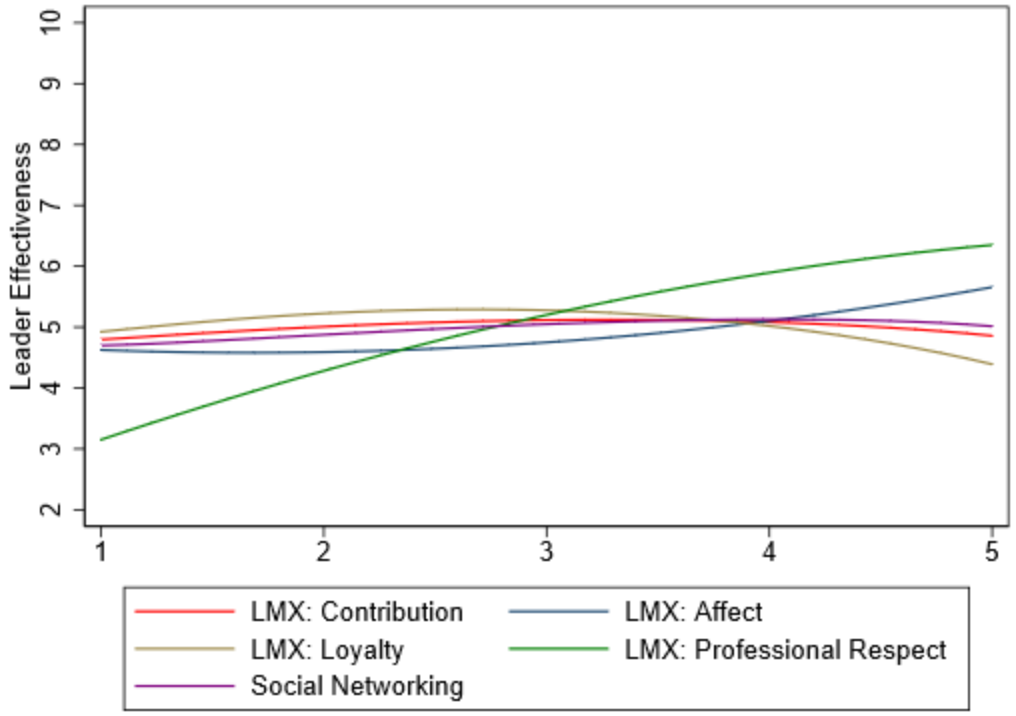


Figure A66.2. Judgment policy by leadership quality for Case 66 based on predicted leader-effectiveness scores from quadric regression.

Table A67.1

Case 67 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.73	1.03	-0.71	.486	-2.84	1.39
contribution2	0.13	0.17	0.75	.462	-0.23	0.48
loyal	-1.25	1.10	-1.13	.268	-3.51	1.02
loyal2	0.28	0.18	1.55	.133	-0.09	0.64
affect	1.64	1.02	1.60	.121	-0.46	3.73
affect2	-0.27	0.17	-1.55	.134	-0.62	0.09
respect	1.05	0.99	1.06	.301	-0.99	3.09
respect2	-0.06	0.16	-0.35	.727	-0.40	0.28
network	1.41	1.07	1.32	.198	-0.78	3.60
network2	-0.14	0.17	-0.80	.432	-0.49	0.22

Note. $F_{(10, 26)} = 37.66$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A67.2

Case 67 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.05	0.19	0.25	.806	0.03
loyal	0.46	0.21	2.24	.032	0.26
affect	0.09	0.20	0.46	.649	0.05
respect	0.72	0.19	3.84	.001	0.43
network	0.59	0.21	2.84	.008	0.32

Note. $F_{(5, 31)} = 74.50$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 67 Observed Judgment Policy of School Building Leader Effectiveness

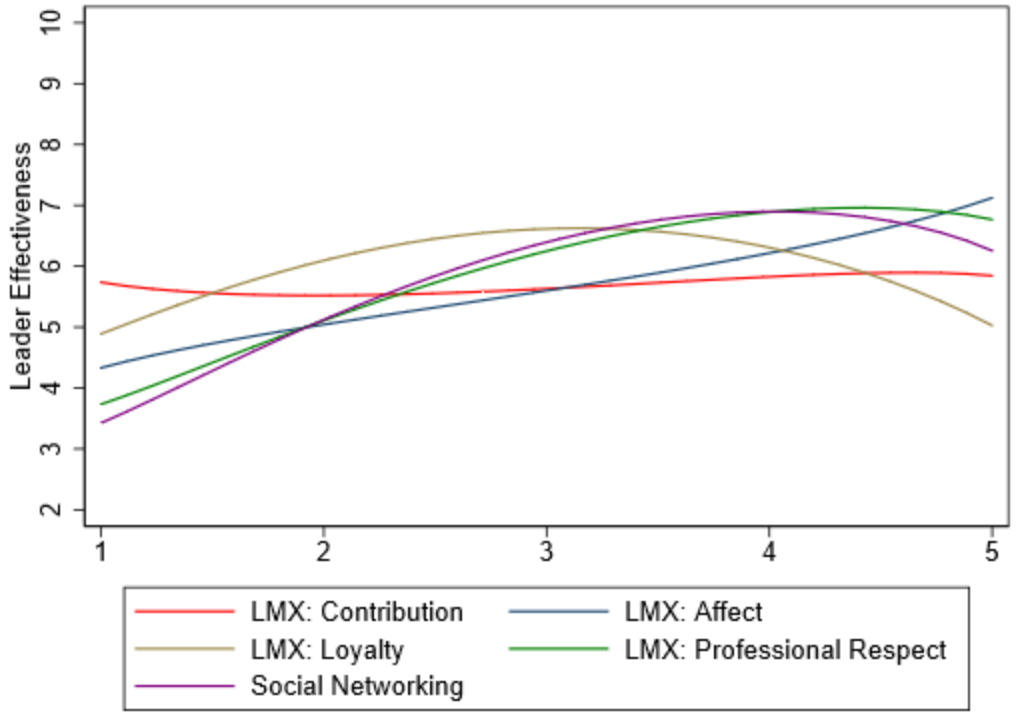


Figure A67.1. Judgment policy by leadership quality for Case 67 based on observed leader-effectiveness scores.

Case 67 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

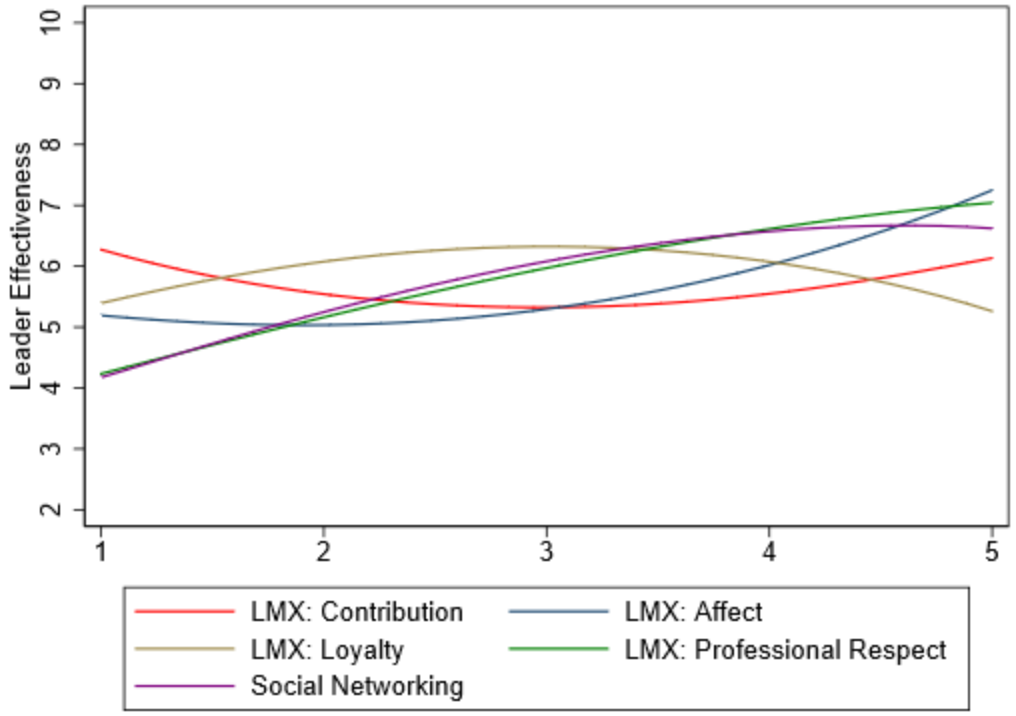


Figure A67.2. Judgment policy by leadership quality for Case 67 based on predicted leader-effectiveness scores from quadric regression.

Table A68.1

Case 68 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.16	1.00	0.16	.872	-1.89	2.21
contribution2	0.01	0.17	0.08	.936	-0.33	0.36
loyal	-0.47	1.07	-0.44	.664	-2.66	1.72
loyal2	0.15	0.17	0.84	.408	-0.21	0.50
affect	1.02	0.99	1.03	.313	-1.01	3.05
affect2	-0.18	0.17	-1.09	.286	-0.52	0.16
respect	1.45	0.96	1.51	.143	-0.52	3.43
respect2	-0.19	0.16	-1.17	.254	-0.51	0.14
network	1.29	1.03	1.25	.224	-0.83	3.41
network2	-0.14	0.17	-0.82	.419	-0.48	0.21

Note. $F_{(10, 26)} = 49.89$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A68.2

Case 68 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.19	1.97	.058	0.30
loyal	0.56	0.20	2.79	.009	0.44
affect	0.11	0.19	0.57	.574	0.09
respect	0.50	0.18	2.75	.010	0.41
network	0.61	0.20	2.98	.006	0.45

Note. $F_{(5, 31)} = 97.46$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 68 Observed Judgment Policy of School Building Leader Effectiveness

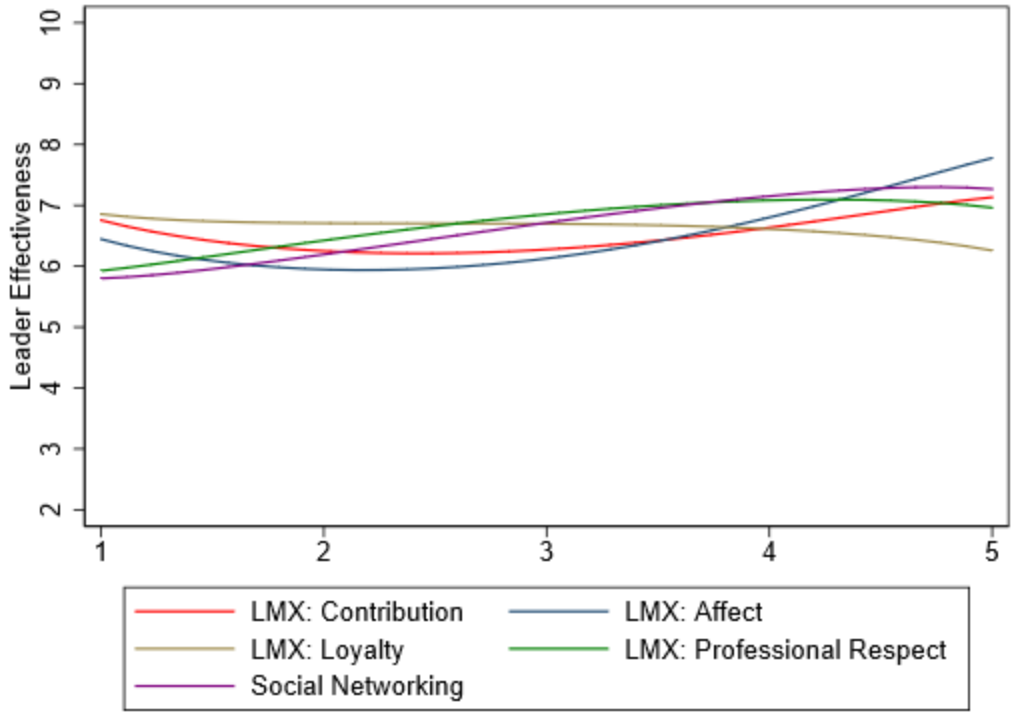


Figure A68.1. Judgment policy by leadership quality for Case 68 based on observed leader-effectiveness scores.

Case 68 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

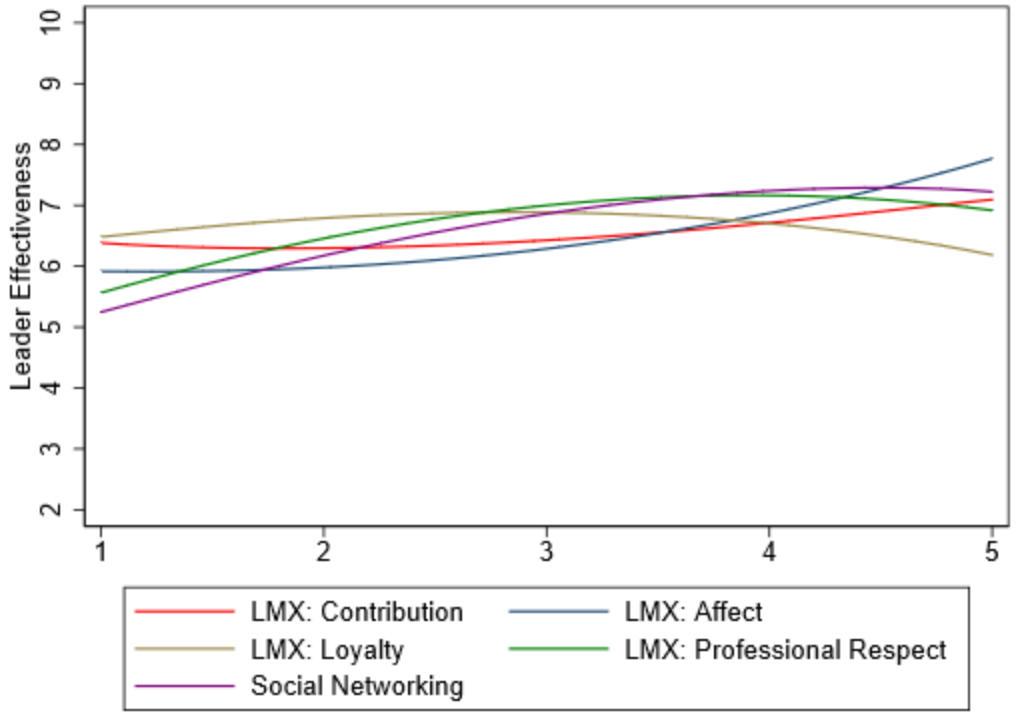


Figure A68.2. Judgment policy by leadership quality for Case 68 based on predicted leader-effectiveness scores from quadric regression.

Table A69.1

Case 69 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.25	1.08	0.23	.820	-1.97	2.46
contribution2	-0.05	0.18	-0.30	.769	-0.42	0.32
loyal	-2.76	1.15	-2.39	.024	-5.13	-0.39
loyal2	0.47	0.19	2.53	.018	0.09	0.86
affect	1.41	1.07	1.32	.198	-0.79	3.61
affect2	-0.26	0.18	-1.45	.158	-0.63	0.11
respect	2.24	1.04	2.15	.041	0.10	4.38
respect2	-0.14	0.17	-0.80	.432	-0.49	0.22
network	1.47	1.12	1.32	.200	-0.83	3.76
network2	-0.21	0.18	-1.15	.259	-0.58	0.16

Note. $F_{(10, 26)} = 36.51$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A69.2

Case 69 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.00	0.21	-0.02	.986	0.00
loyal	0.20	0.23	0.88	.388	0.10
affect	-0.03	0.22	-0.14	.891	-0.01
respect	1.46	0.21	7.00	.000	0.73
network	0.28	0.23	1.21	.236	0.13

Note. $F_{(5, 31)} = 64.05$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 69 Observed Judgment Policy of School Building Leader Effectiveness

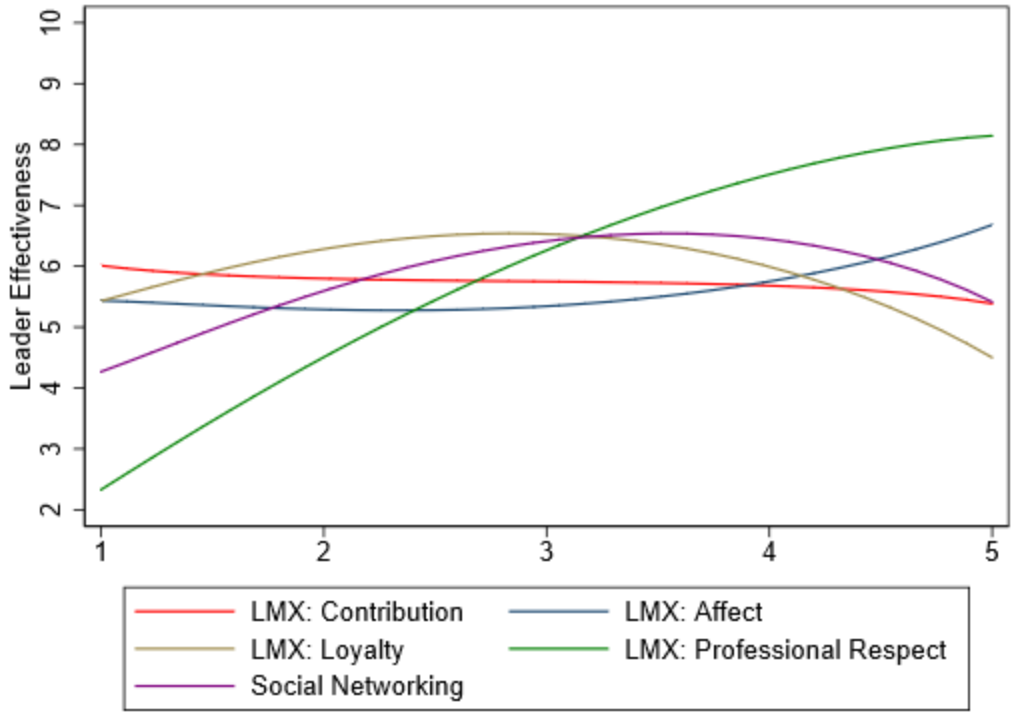


Figure A69.1. Judgment policy by leadership quality for Case 69 based on observed leader-effectiveness scores.

Case 69 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

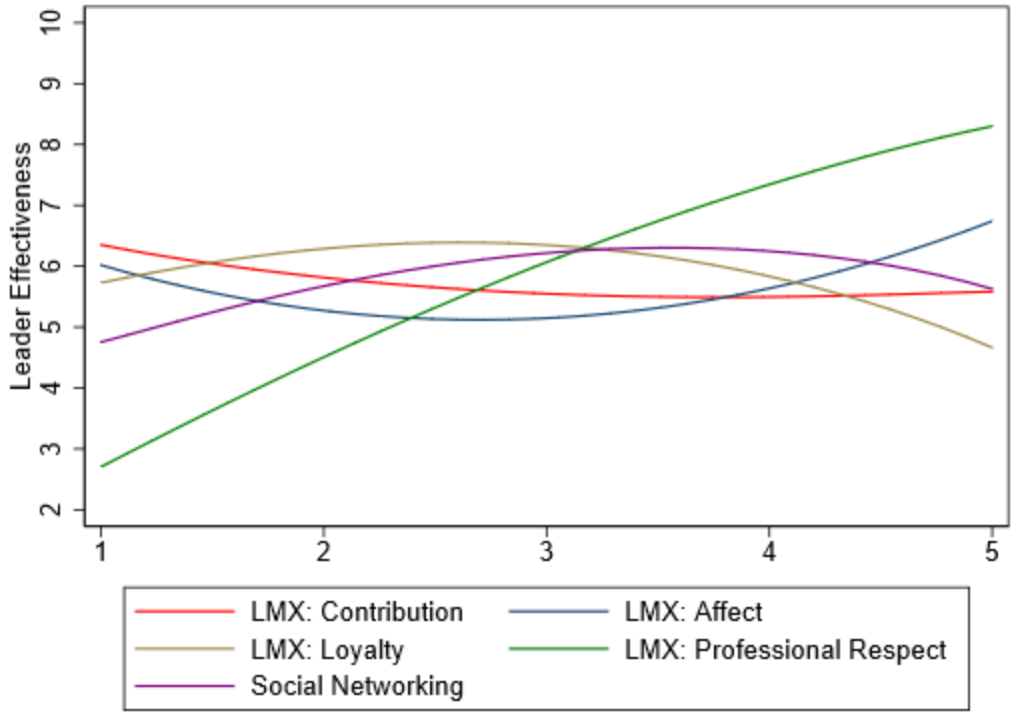


Figure A69.2. Judgment policy by leadership quality for Case 69 based on predicted leader-effectiveness scores from quadric regression.

Table A70.1

Case 70 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.65	1.05	-0.62	.542	-2.81	1.51
contribution2	0.10	0.18	0.59	.558	-0.26	0.47
loyal	-2.34	1.12	-2.09	.047	-4.65	-0.04
loyal2	0.43	0.18	2.34	.027	0.05	0.80
affect	0.97	1.04	0.93	.359	-1.17	3.11
affect2	-0.22	0.18	-1.26	.220	-0.58	0.14
respect	1.88	1.01	1.85	.075	-0.20	3.96
respect2	-0.14	0.17	-0.85	.405	-0.49	0.20
network	2.25	1.09	2.07	.049	0.01	4.49
network2	-0.27	0.18	-1.52	.140	-0.63	0.09

Note. $F_{(10, 26)} = 32.66$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A70.2

Case 70 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.02	0.21	0.07	.942	0.01
loyal	0.30	0.22	1.36	.185	0.16
affect	-0.27	0.21	-1.30	.203	-0.15
respect	1.05	0.20	5.21	.000	0.57
network	0.65	0.23	2.88	.007	0.32

Note. $F_{(5, 31)} = 57.34$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 70 Observed Judgment Policy of School Building Leader Effectiveness

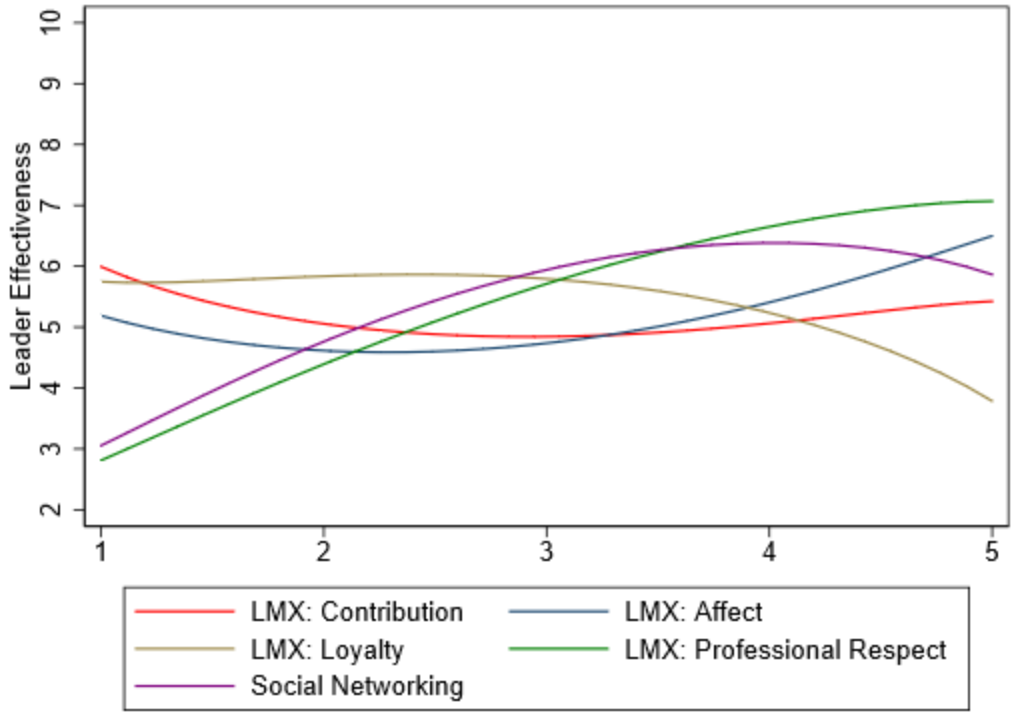


Figure A70.1. Judgment policy by leadership quality for Case 70 based on observed leader-effectiveness scores.

Case 70 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

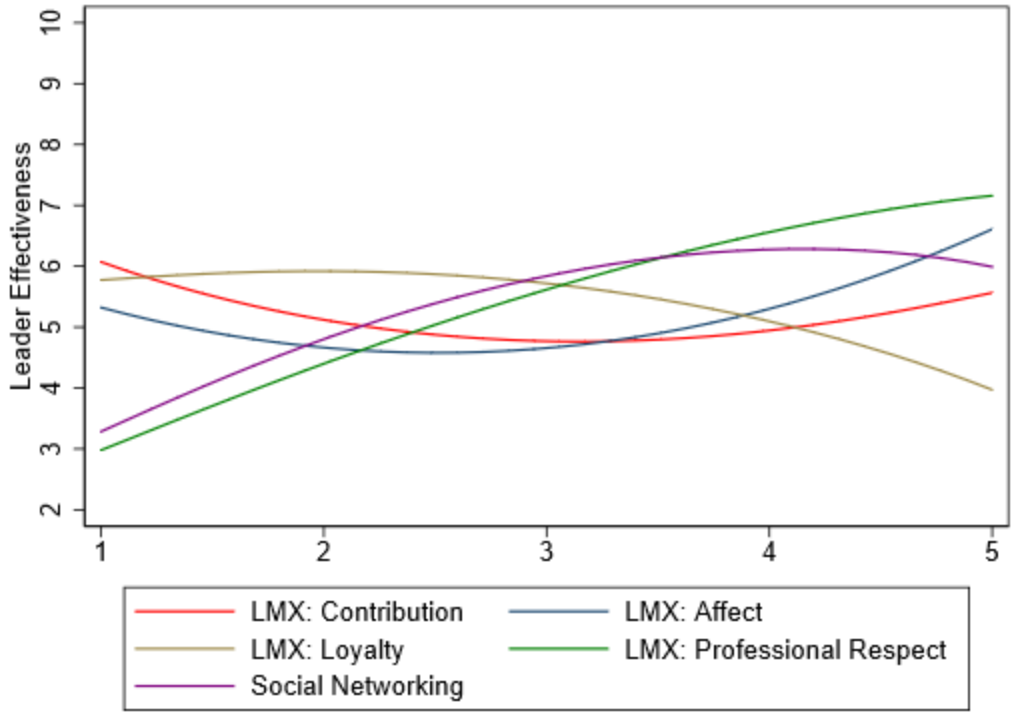


Figure A70.2. Judgment policy by leadership quality for Case 70 based on predicted leader-effectiveness scores from quadric regression.

Table A71.1

Case 71 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.58	1.33	1.19	.243	-1.14	4.31
contribution2	-0.30	0.22	-1.34	.191	-0.75	0.16
loyal	1.24	1.42	0.88	.389	-1.67	4.16
loyal2	-0.15	0.23	-0.66	.518	-0.62	0.32
affect	-0.75	1.31	-0.57	.576	-3.45	1.96
affect2	0.18	0.22	0.81	.427	-0.28	0.63
respect	3.33	1.28	2.60	.015	0.70	5.96
respect2	-0.51	0.21	-2.41	.023	-0.95	-0.08
network	1.29	1.37	0.94	.356	-1.53	4.12
network2	-0.27	0.22	-1.21	.236	-0.73	0.19

Note. $F_{(10, 26)} = 46.67$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A71.2

Case 71 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.25	0.31	0.81	.422	0.17
loyal	0.78	0.33	2.35	.025	0.49
affect	0.82	0.32	2.59	.014	0.53
respect	0.77	0.30	2.54	.016	0.50
network	0.12	0.34	0.35	.730	0.07

Note. $F_{(5, 31)} = 56.55$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 71 Observed Judgment Policy of School Building Leader Effectiveness

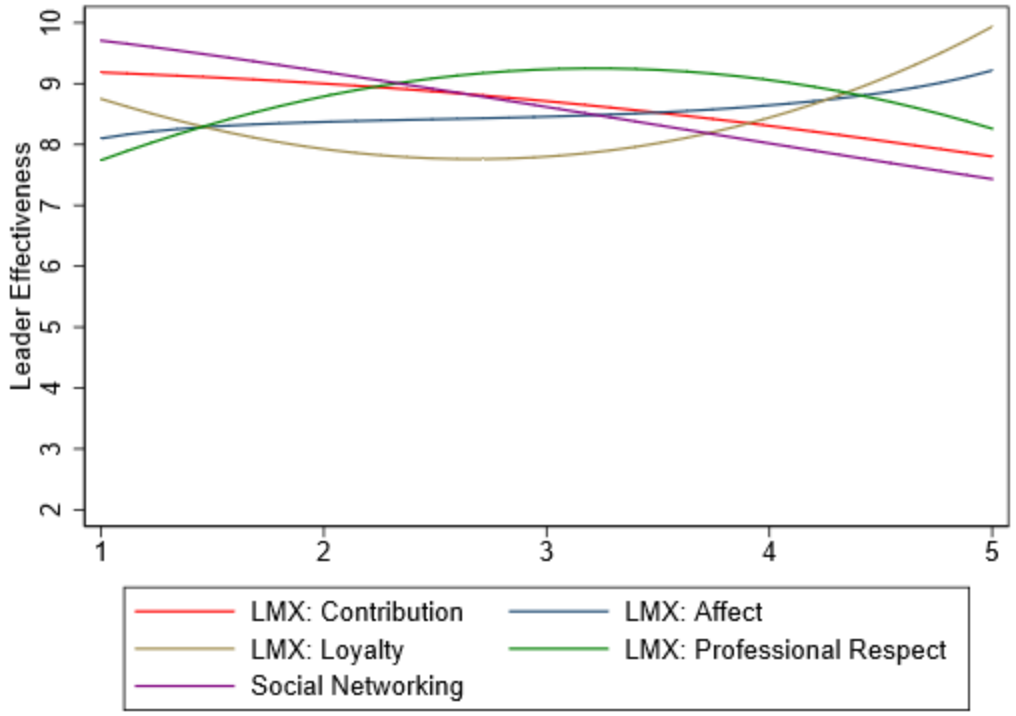


Figure A71.1. Judgment policy by leadership quality for Case 71 based on observed leader-effectiveness scores.

Case 71 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

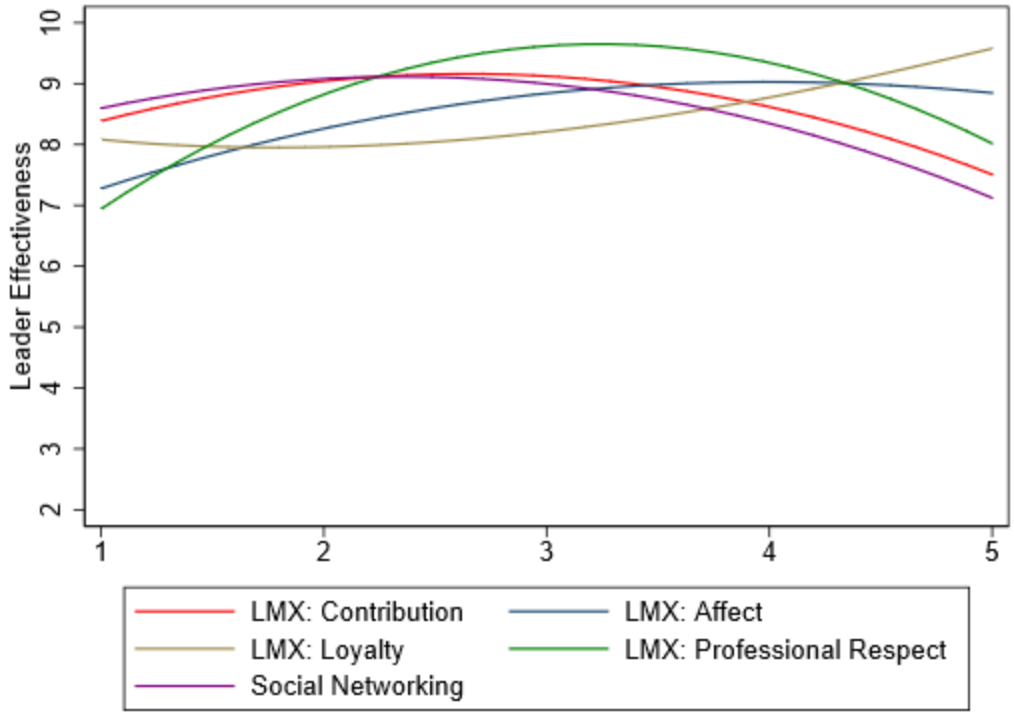


Figure A71.2. Judgment policy by leadership quality for Case 71 based on predicted leader-effectiveness scores from quadric regression.

Table A72.1

Case 72 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.00	1.36	0.00	.998	-2.79	2.79
contribution2	0.00	0.23	0.00	1.000	-0.47	0.47
loyal	-1.62	1.45	-1.12	.275	-4.60	1.36
loyal2	0.33	0.24	1.41	.170	-0.15	0.82
affect	2.34	1.35	1.74	.094	-0.43	5.10
affect2	-0.39	0.23	-1.72	.097	-0.85	0.08
respect	1.07	1.31	0.82	.422	-1.62	3.76
respect2	-0.04	0.22	-0.18	.861	-0.48	0.41
network	1.02	1.41	0.73	.474	-1.87	3.91
network2	-0.08	0.23	-0.36	.723	-0.55	0.39

Note. $F_{(10, 26)} = 26.97$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A72.2

Case 72 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.04	0.25	0.17	.863	0.02
loyal	0.46	0.27	1.71	.098	0.23
affect	0.12	0.25	0.46	.647	0.06
respect	0.90	0.25	3.68	.001	0.47
network	0.61	0.27	2.24	.032	0.29

Note. $F_{(5, 31)} = 54.38$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 72 Observed Judgment Policy of School Building Leader Effectiveness

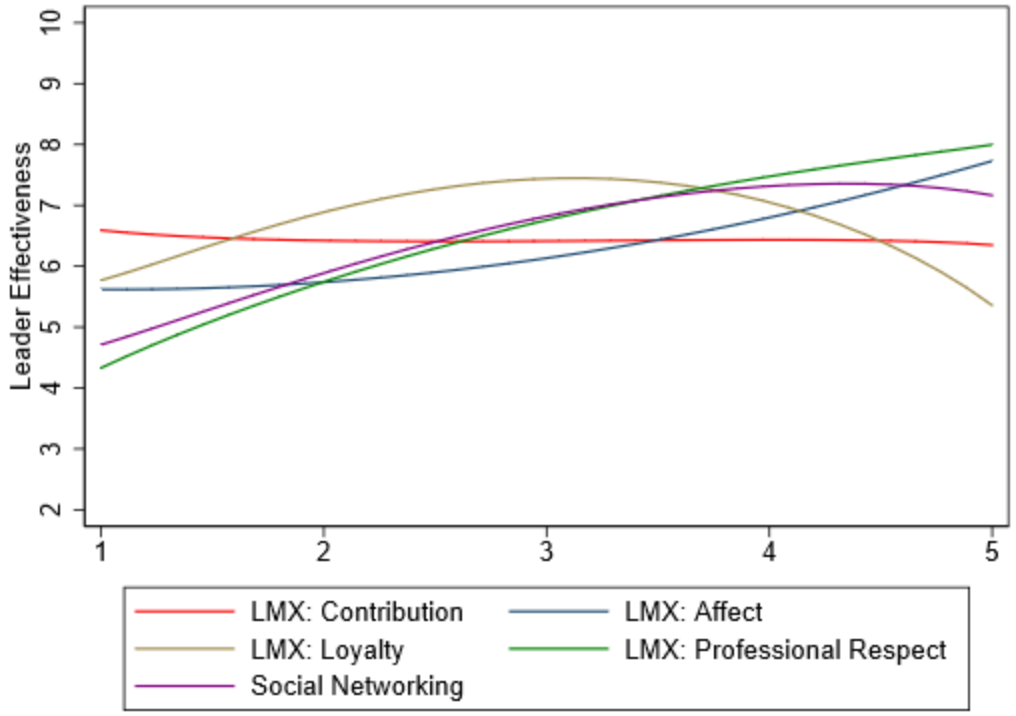


Figure A72.1. Judgment policy by leadership quality for Case 72 based on observed leader-effectiveness scores.

Case 72 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

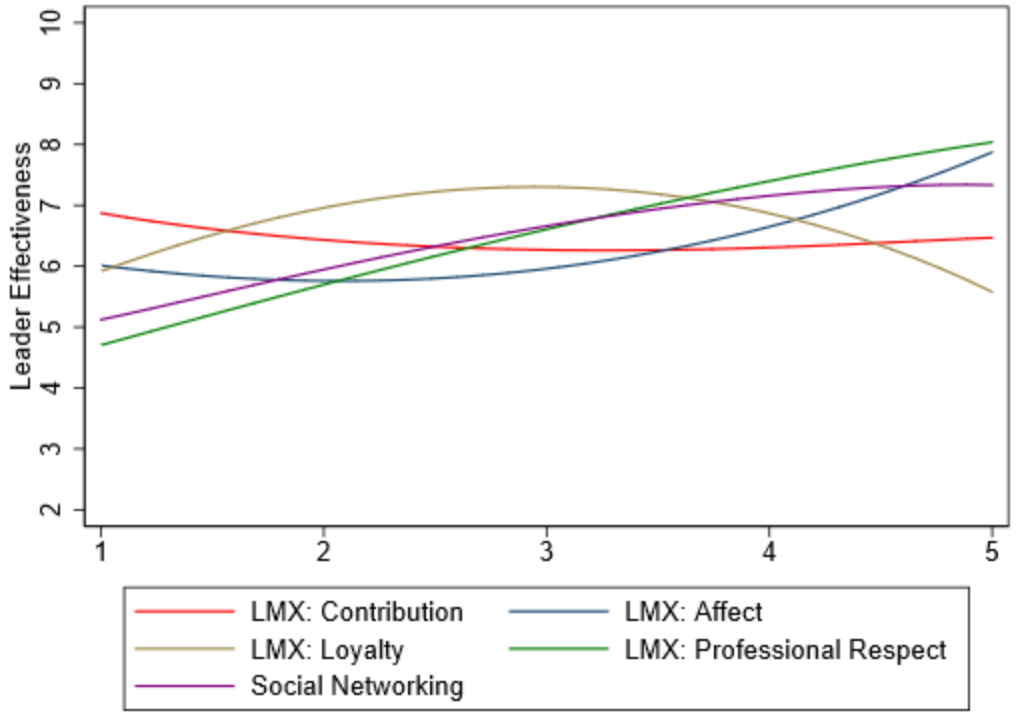


Figure A72.2. Judgment policy by leadership quality for Case 72 based on predicted leader-effectiveness scores from quadric regression.

Table A73.1

Case 73 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.34	1.69	-0.20	.841	-3.81	3.13
contribution2	0.05	0.28	0.18	.862	-0.53	0.63
loyal	0.01	1.81	0.00	.996	-3.70	3.72
loyal2	0.07	0.29	0.25	.804	-0.53	0.68
affect	2.70	1.67	1.61	.119	-0.74	6.14
affect2	-0.46	0.28	-1.64	.112	-1.04	0.12
respect	-0.33	1.63	-0.20	.840	-3.69	3.02
respect2	0.04	0.27	0.16	.873	-0.51	0.60
network	1.65	1.75	0.94	.356	-1.95	5.24
network2	-0.22	0.28	-0.79	.437	-0.81	0.36

Note. $F_{(10, 26)} = 11.63$ ($p < .001$), $R^2 = .82$, Adjusted $R^2 = .75$

Table A73.2

Case 73 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.31	0.44	.662	0.07
loyal	0.64	0.34	1.91	.065	0.33
affect	0.19	0.32	0.59	.558	0.10
respect	0.22	0.31	0.73	.473	0.12
network	0.53	0.34	1.54	.134	0.25

Note. $F_{(5, 31)} = 22.40$ ($p < .001$), $R^2 = .78$, Adjusted $R^2 = .75$

Case 73 Observed Judgment Policy of School Building Leader Effectiveness

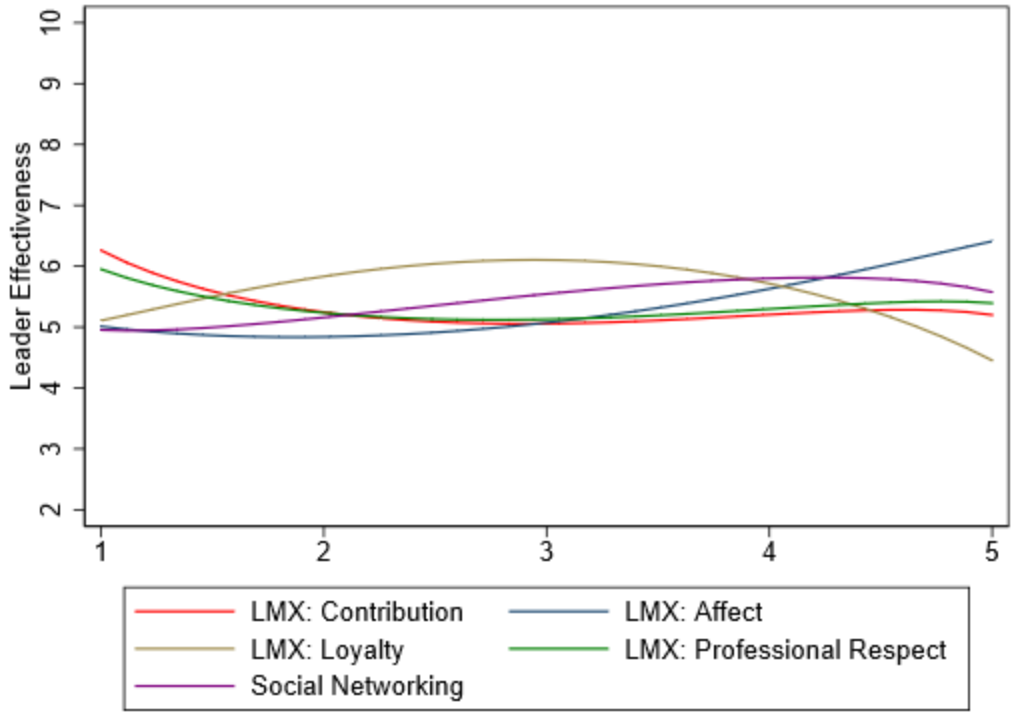


Figure A73.1. Judgment policy by leadership quality for Case 73 based on observed leader-effectiveness scores.

Case 73 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

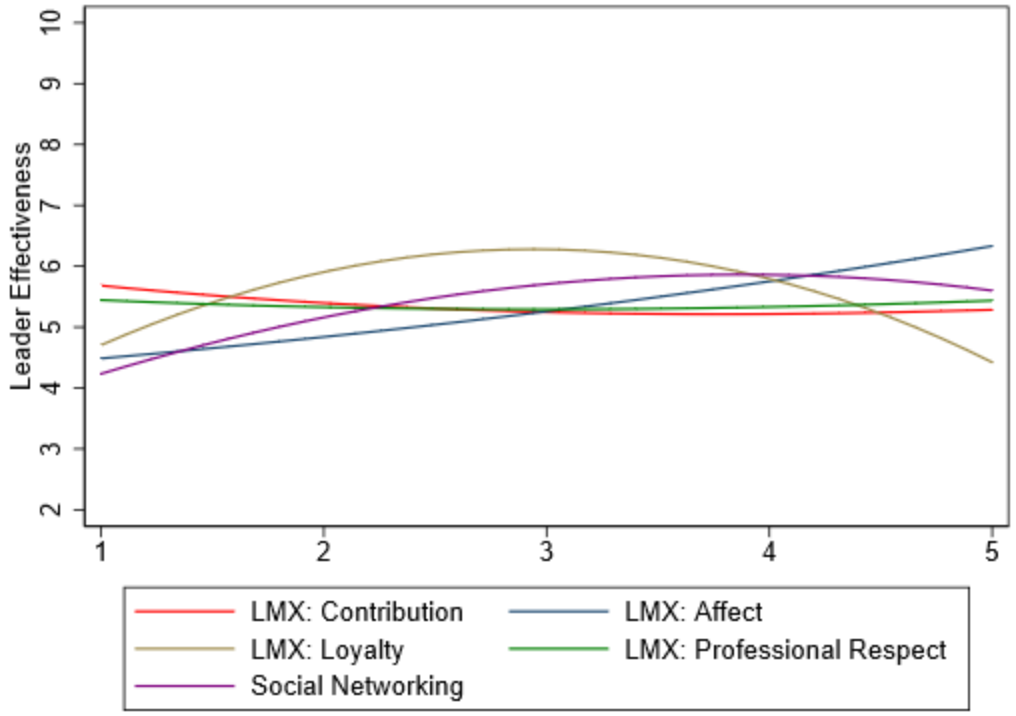


Figure A73.2. Judgment policy by leadership quality for Case 73 based on predicted leader-effectiveness scores from quadric regression.

Table A74.1

Case 74 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.73	1.42	-0.51	.611	-3.64	2.19
contribution2	0.15	0.24	0.62	.540	-0.34	0.63
loyal	-0.71	1.52	-0.47	.644	-3.83	2.41
loyal2	0.19	0.25	0.79	.439	-0.31	0.70
affect	1.96	1.41	1.39	.176	-0.93	4.85
affect2	-0.32	0.24	-1.36	.187	-0.81	0.17
respect	0.89	1.37	0.65	.522	-1.93	3.70
respect2	-0.13	0.23	-0.58	.566	-0.60	0.33
network	1.54	1.47	1.05	.305	-1.48	4.56
network2	-0.18	0.24	-0.77	.448	-0.68	0.31

Note. $F_{(10, 26)} = 18.14$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .83$

Table A74.2

Case 74 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.25	0.26	0.95	.349	0.15
loyal	0.58	0.28	2.10	.044	0.34
affect	0.19	0.26	0.73	.472	0.12
respect	0.26	0.25	1.01	.319	0.16
network	0.55	0.28	1.96	.059	0.31

Note. $F_{(5, 31)} = 36.97$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .83$

Case 74 Observed Judgment Policy of School Building Leader Effectiveness

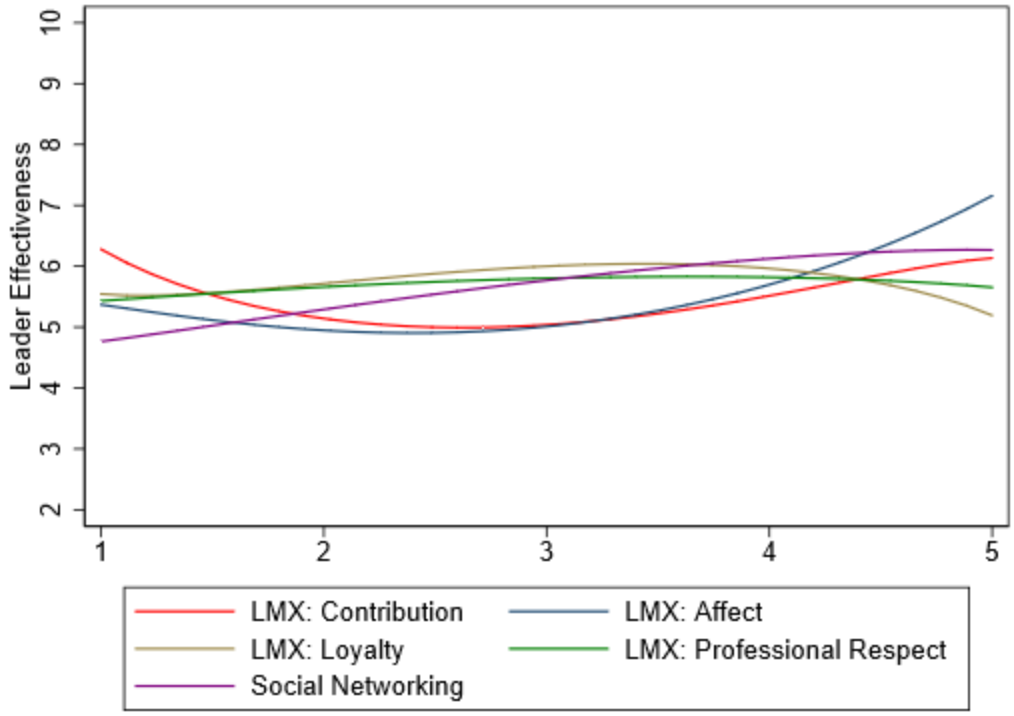


Figure A74.1. Judgment policy by leadership quality for Case 74 based on observed leader-effectiveness scores.

Case 74 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

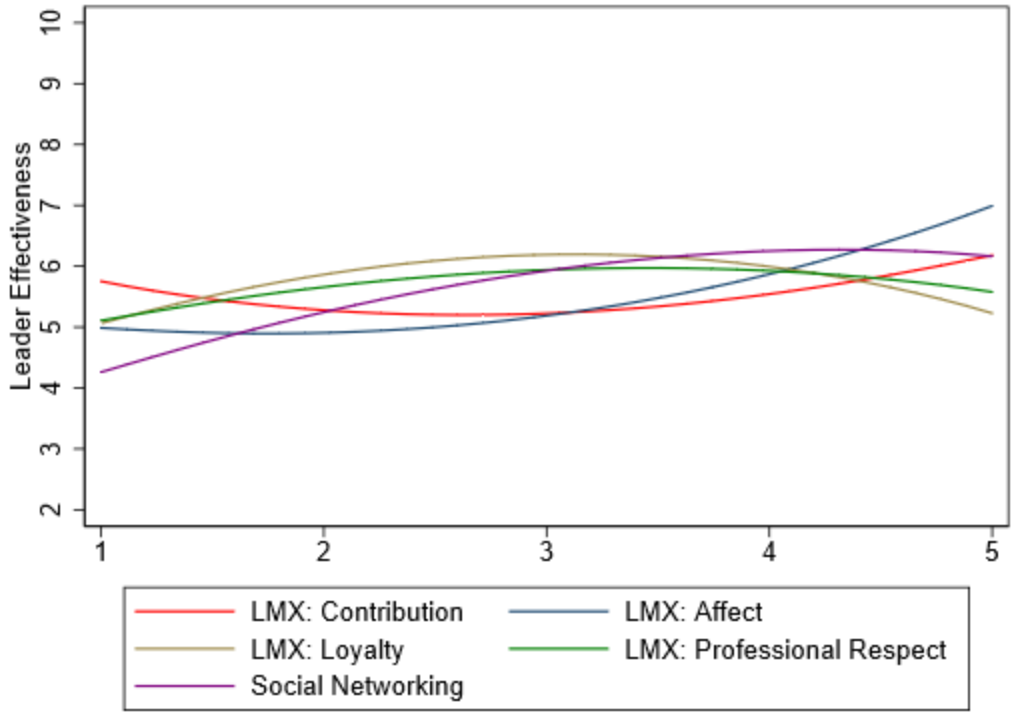


Figure A74.2. Judgment policy by leadership quality for Case 74 based on predicted leader-effectiveness scores from quadric regression.

Table A75.1

Case 75 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.18	1.26	0.93	.359	-1.42	3.77
contribution2	-0.15	0.21	-0.73	.474	-0.59	0.28
loyal	-1.15	1.35	-0.86	.400	-3.93	1.62
loyal2	0.22	0.22	1.02	.316	-0.23	0.67
affect	1.40	1.25	1.12	.274	-1.17	3.97
affect2	-0.21	0.21	-0.99	.331	-0.64	0.22
respect	0.10	1.22	0.09	.932	-2.40	2.61
respect2	0.05	0.20	0.27	.792	-0.36	0.47
network	1.07	1.31	0.82	.419	-1.61	3.76
network2	-0.01	0.21	-0.06	.952	-0.45	0.42

Note. $F_{(10, 26)} = 33.10$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A75.2

Case 75 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.29	0.22	1.27	.212	0.16
loyal	0.23	0.24	0.96	.345	0.12
affect	0.22	0.23	0.97	.340	0.12
respect	0.44	0.22	2.00	.055	0.25
network	1.05	0.24	4.28	.000	0.53

Note. $F_{(5, 31)} = 72.46$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 75 Observed Judgment Policy of School Building Leader Effectiveness

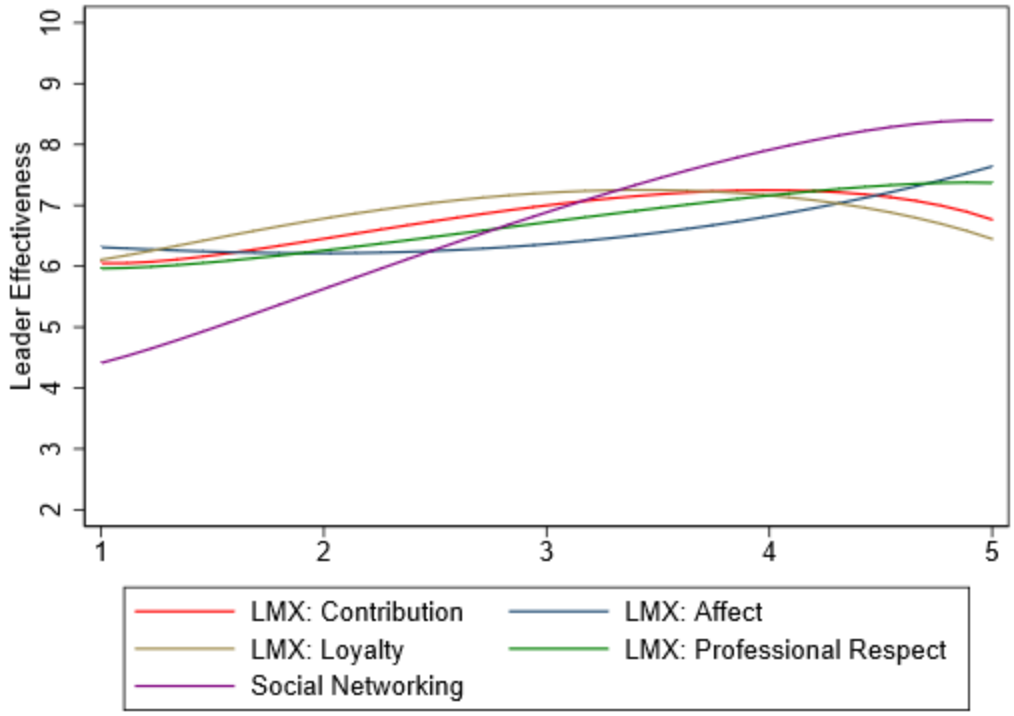


Figure A75.1. Judgment policy by leadership quality for Case 75 based on observed leader-effectiveness scores.

Case 75 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

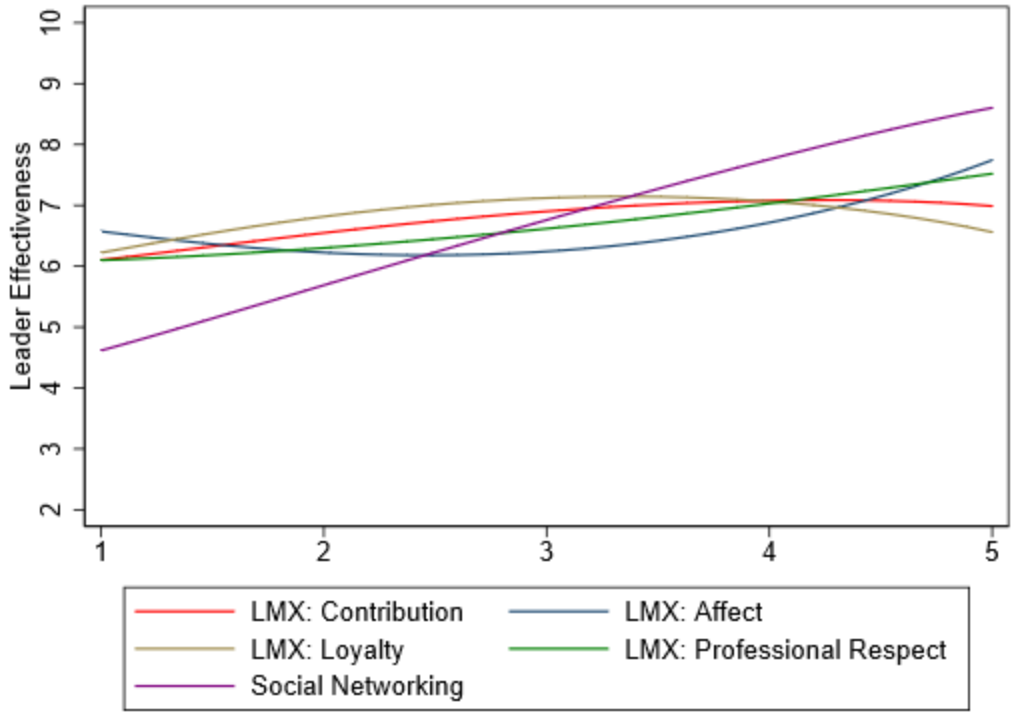


Figure A75.2. Judgment policy by leadership quality for Case 75 based on predicted leader-effectiveness scores from quadric regression.

Table A76.1

Case 76 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.73	0.95	-0.77	.451	-2.68	1.23
contribution2	0.14	0.16	0.87	.391	-0.19	0.47
loyal	-1.81	1.02	-1.78	.087	-3.90	0.28
loyal2	0.32	0.17	1.94	.063	-0.02	0.66
affect	1.78	0.94	1.89	.070	-0.16	3.72
affect2	-0.28	0.16	-1.75	.091	-0.60	0.05
respect	2.39	0.92	2.60	.015	0.50	4.28
respect2	-0.19	0.15	-1.27	.215	-0.51	0.12
network	0.51	0.99	0.52	.607	-1.51	2.54
network2	-0.07	0.16	-0.42	.679	-0.40	0.26

Note. $F_{(10, 26)} = 42.14$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A76.2

Case 76 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.10	0.19	0.55	.586	0.06
loyal	0.17	0.20	0.86	.396	0.10
affect	0.18	0.19	0.94	.356	0.11
respect	1.25	0.18	6.87	.000	0.75
network	0.14	0.20	0.71	.483	0.08

Note. $F_{(5, 31)} = 75.66$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 76 Observed Judgment Policy of School Building Leader Effectiveness

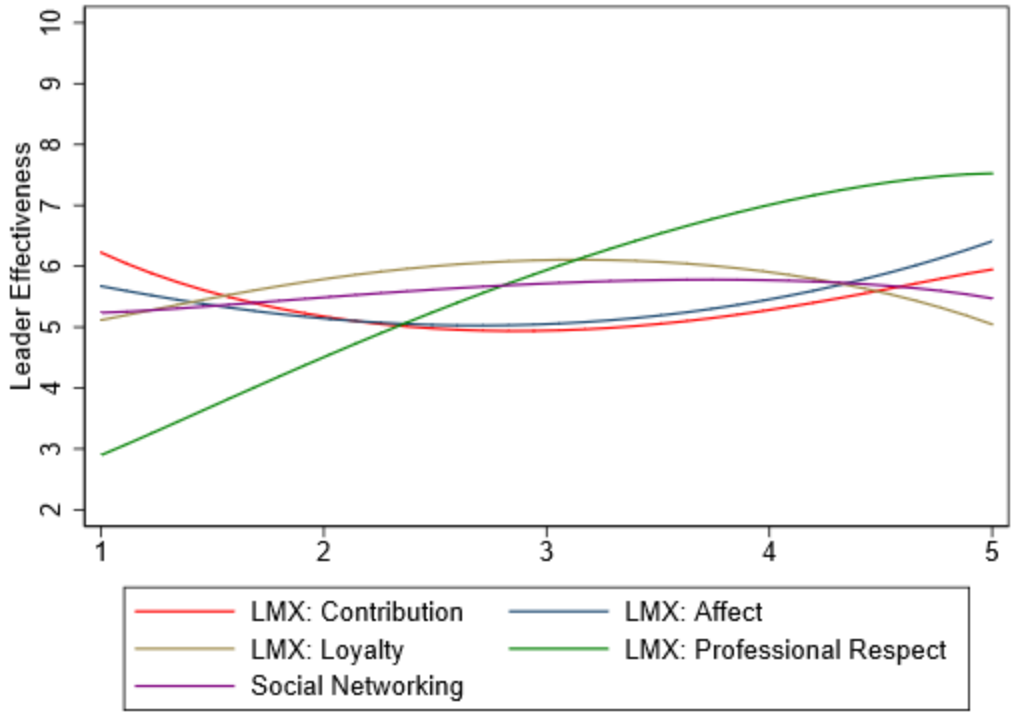


Figure A76.1. Judgment policy by leadership quality for Case 76 based on observed leader-effectiveness scores.

Case 76 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

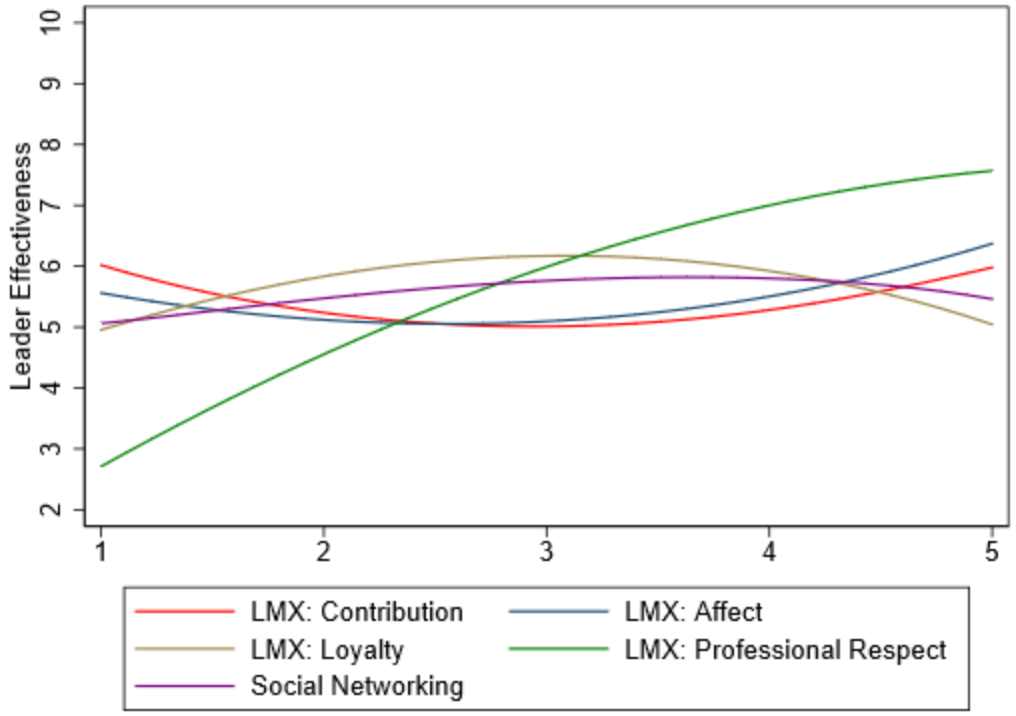


Figure A76.2. Judgment policy by leadership quality for Case 76 based on predicted leader-effectiveness scores from quadric regression.

Table A77.1

Case 77 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.04	1.17	-0.89	.382	-3.44	1.36
contribution2	0.18	0.20	0.90	.374	-0.22	0.58
loyal	-0.70	1.25	-0.56	.581	-3.26	1.87
loyal2	0.09	0.20	0.42	.676	-0.33	0.50
affect	1.72	1.16	1.49	.149	-0.66	4.10
affect2	-0.27	0.19	-1.37	.184	-0.67	0.13
respect	-0.20	1.13	-0.17	.863	-2.51	2.12
respect2	0.12	0.19	0.64	.527	-0.26	0.50
network	3.01	1.21	2.49	.019	0.53	5.50
network2	-0.31	0.20	-1.58	.127	-0.71	0.09

Note. $F_{(10, 26)} = 35.25$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A77.2

Case 77 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.10	0.22	0.47	.639	0.06
loyal	-0.10	0.23	-0.44	.661	-0.06
affect	0.22	0.22	0.99	.329	0.12
respect	0.67	0.21	3.12	.004	0.38
network	1.21	0.24	5.07	.000	0.62

Note. $F_{(5, 31)} = 68.96$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 77 Observed Judgment Policy of School Building Leader Effectiveness

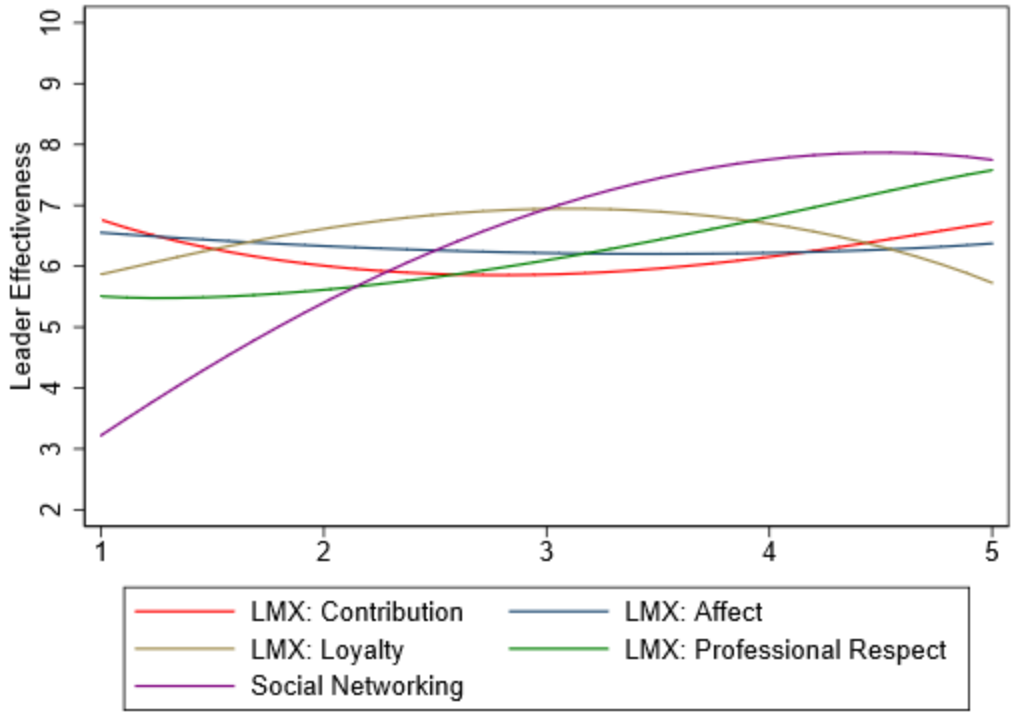


Figure A77.1. Judgment policy by leadership quality for Case 77 based on observed leader-effectiveness scores.

Case 77 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

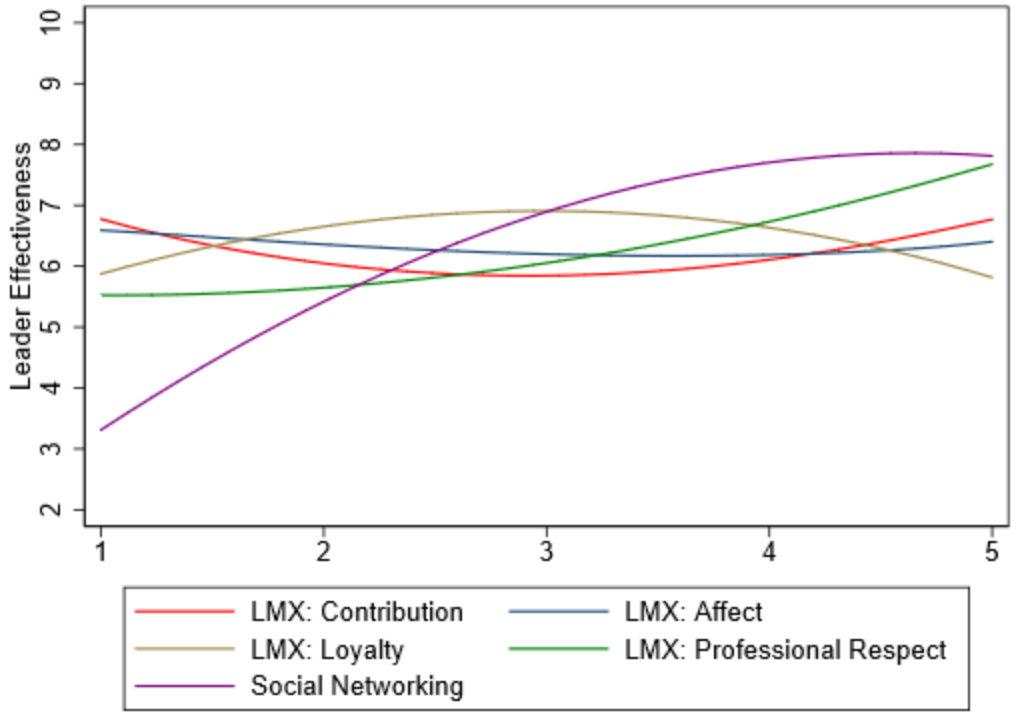


Figure A77.2. Judgment policy by leadership quality for Case 77 based on predicted leader-effectiveness scores from quadric regression.

Table A78.1

Case 78 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.44	1.21	-0.36	.722	-2.93	2.06
contribution2	0.09	0.20	0.43	.674	-0.33	0.50
loyal	-1.51	1.30	-1.17	.253	-4.18	1.15
loyal2	0.29	0.21	1.38	.178	-0.14	0.72
affect	0.72	1.20	0.60	.556	-1.75	3.19
affect2	-0.11	0.20	-0.56	.579	-0.53	0.30
respect	1.99	1.17	1.70	.101	-0.42	4.40
respect2	-0.10	0.19	-0.50	.620	-0.50	0.30
network	0.67	1.26	0.53	.598	-1.91	3.25
network2	-0.06	0.20	-0.31	.760	-0.48	0.36

Note. $F_{(10, 26)} = 25.73$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A78.2

Case 78 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.03	0.22	0.13	.895	0.01
loyal	0.22	0.23	0.94	.352	0.11
affect	0.00	0.22	0.01	.989	0.00
respect	1.33	0.21	6.23	.000	0.66
network	0.24	0.24	0.99	.328	0.11

Note. $F_{(5, 31)} = 55.02$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 78 Observed Judgment Policy of School Building Leader Effectiveness

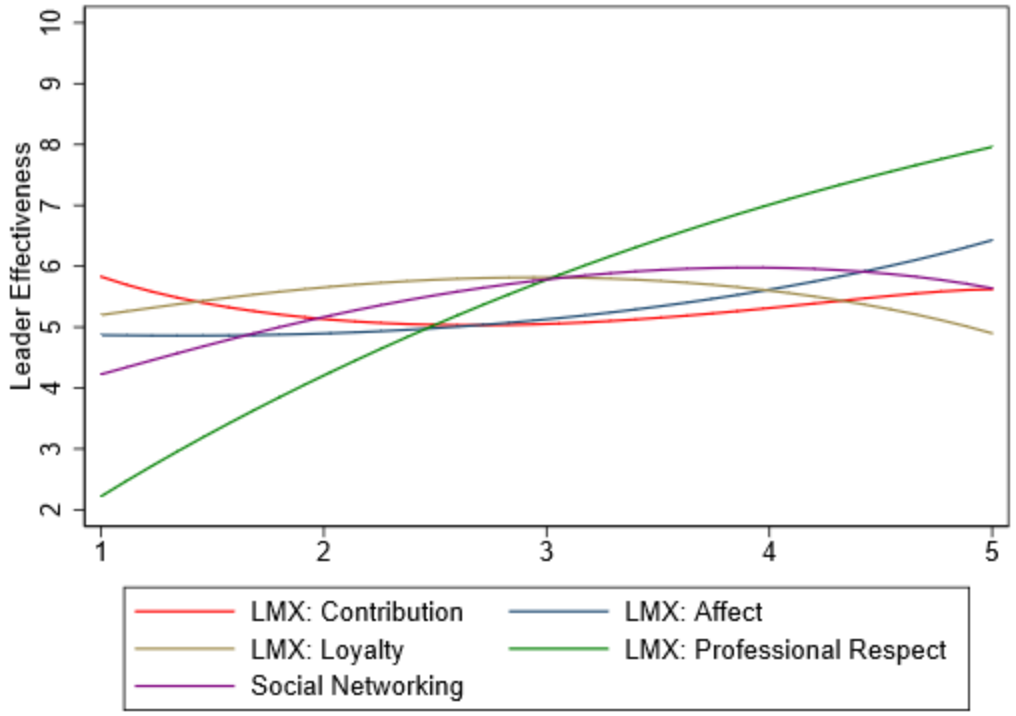


Figure A78.1. Judgment policy by leadership quality for Case 78 based on observed leader-effectiveness scores.

Case 78 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

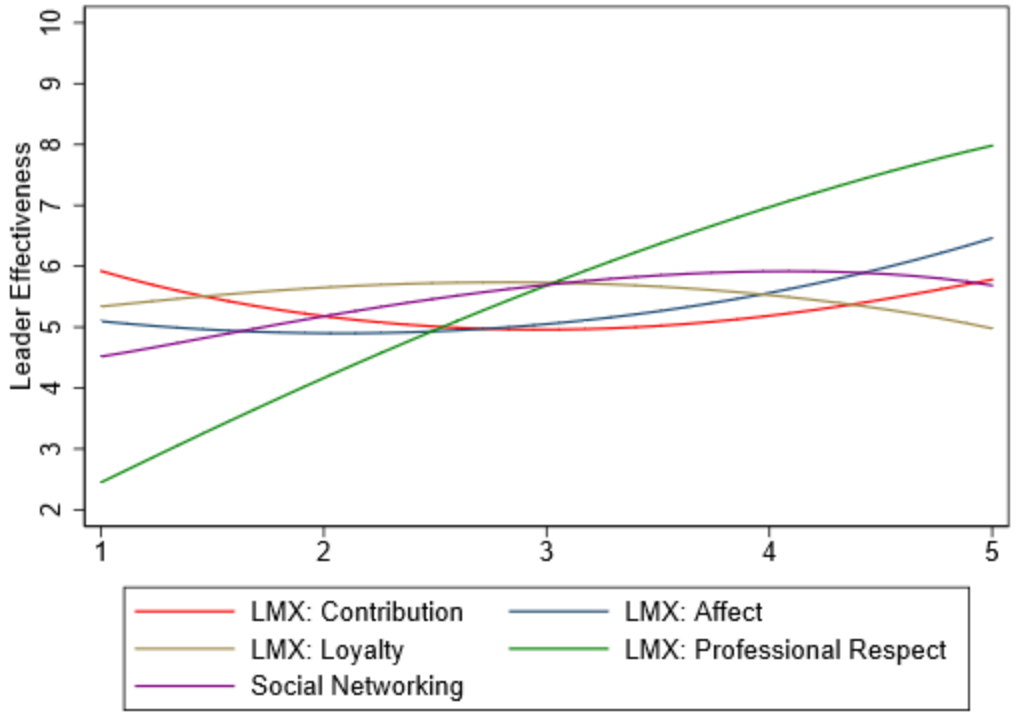


Figure A78.2. Judgment policy by leadership quality for Case 78 based on predicted leader-effectiveness scores from quadric regression.

Table A79.1

Case 79 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.10	0.79	1.39	.176	-0.52	2.72
contribution	-0.18	0.13	-1.34	.193	-0.45	0.09
loyal	-2.68	0.84	-3.18	.004	-4.41	-0.95
loyal2	0.45	0.14	3.28	.003	0.17	0.73
affect	1.86	0.78	2.37	.025	0.25	3.46
affect2	-0.28	0.13	-2.14	.042	-0.55	-0.01
respect	1.71	0.76	2.25	.033	0.14	3.27
respect2	-0.17	0.13	-1.33	.194	-0.43	0.09
network	1.12	0.82	1.37	.181	-0.56	2.80
network2	-0.10	0.13	-0.74	.466	-0.37	0.17

Note. $F_{(10, 26)} = 72.41$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A79.2

Case 79 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.13	0.17	0.77	.446	0.10
loyal	0.15	0.19	0.82	.420	0.11
affect	0.34	0.18	1.94	.062	0.26
respect	0.77	0.17	4.54	.000	0.59
network	0.66	0.19	3.48	.002	0.46

Note. $F_{(5, 31)} = 102.39$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 79 Observed Judgment Policy of School Building Leader Effectiveness

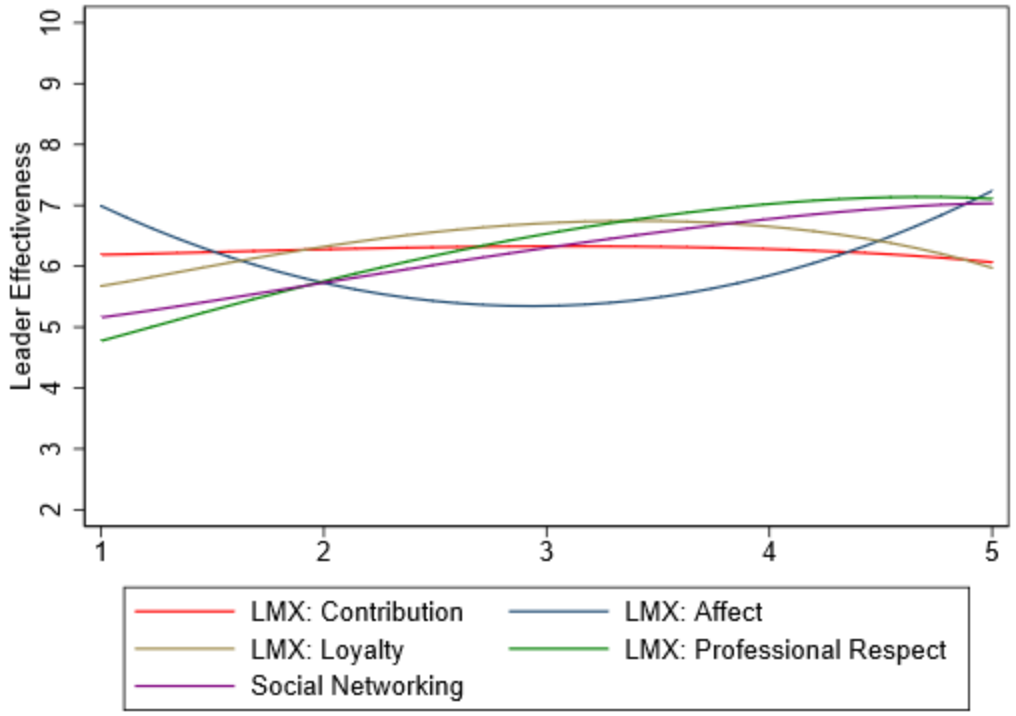


Figure A79.1. Judgment policy by leadership quality for Case 79 based on observed leader-effectiveness scores.

Case 79 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

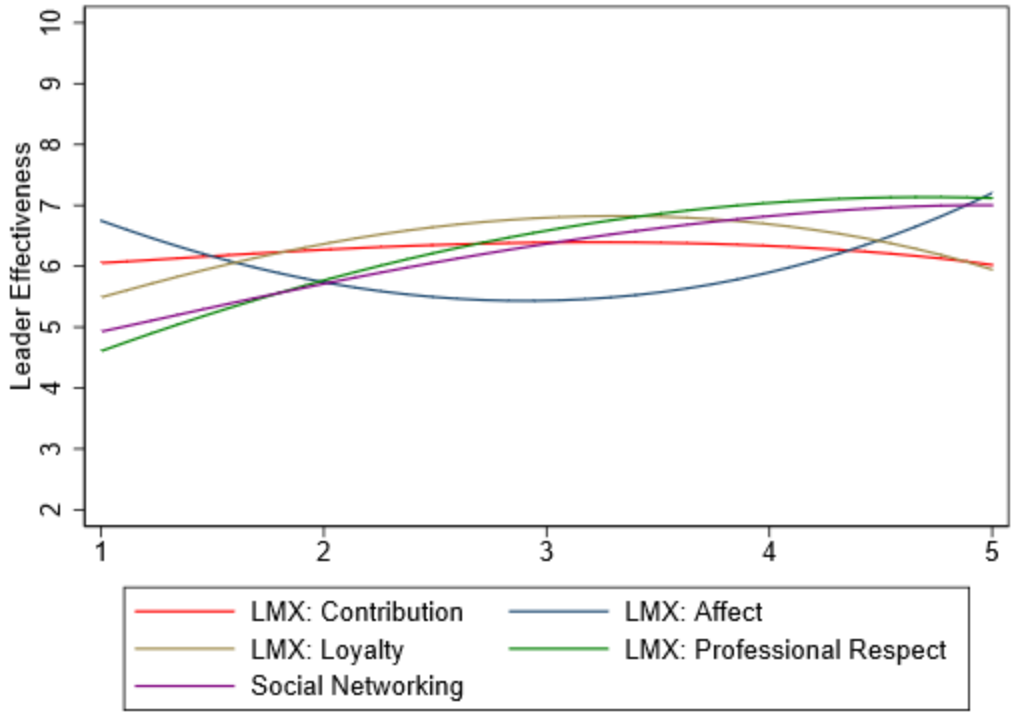


Figure A79.2. Judgment policy by leadership quality for Case 79 based on predicted leader-effectiveness scores from quadric regression.

Table A80.1

Case 80 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.42	1.53	0.28	.785	-2.73	3.57
contribution2	-0.01	0.26	-0.03	.974	-0.53	0.52
loyal	-1.71	1.64	-1.04	.307	-5.07	1.66
loyal2	0.35	0.27	1.31	.201	-0.20	0.90
affect	1.65	1.52	1.08	.288	-1.47	4.77
affect2	-0.21	0.26	-0.83	.416	-0.74	0.31
respect	0.63	1.48	0.42	.675	-2.41	3.67
respect2	-0.06	0.24	-0.25	.804	-0.56	0.44
network	2.60	1.59	1.64	.113	-0.66	5.86
network2	-0.41	0.26	-1.60	.122	-0.94	0.12

Note. $F_{(10, 26)} = 24.15$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Table A80.2

Case 80 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.53	0.28	1.87	.071	0.29
loyal	0.56	0.30	1.84	.075	0.29
affect	0.56	0.29	1.95	.061	0.31
respect	0.42	0.28	1.51	.140	0.23
network	0.23	0.31	0.76	.455	0.12

Note. $F_{(5, 31)} = 47.81$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 80 Observed Judgment Policy of School Building Leader Effectiveness

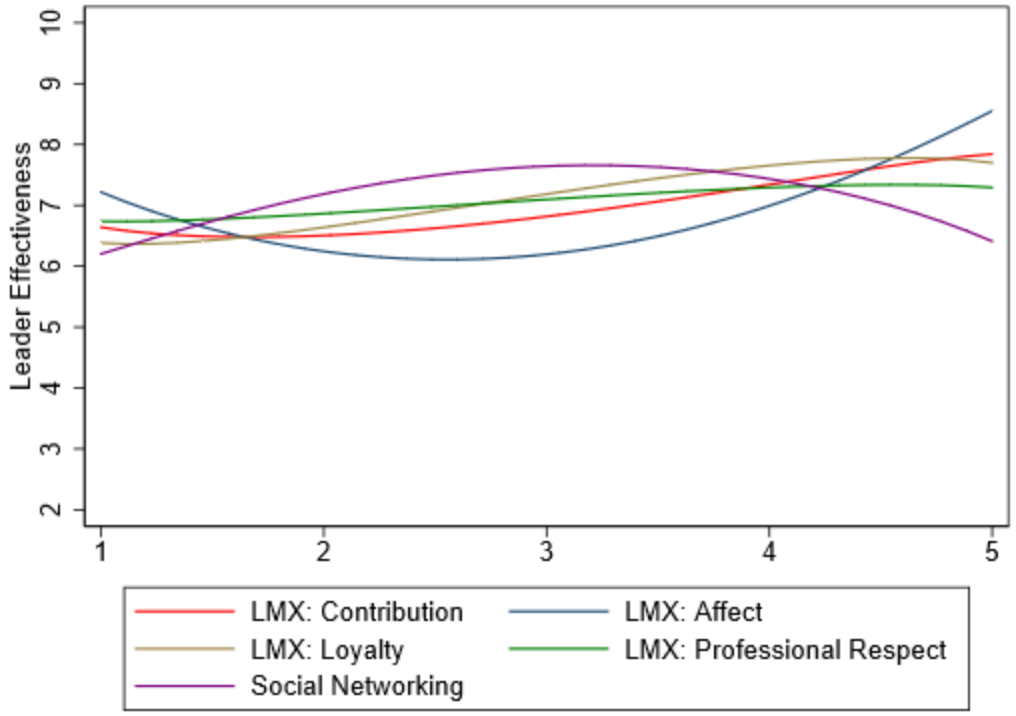


Figure A80.1. Judgment policy by leadership quality for Case 80 based on observed leader-effectiveness scores.

Case 80 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

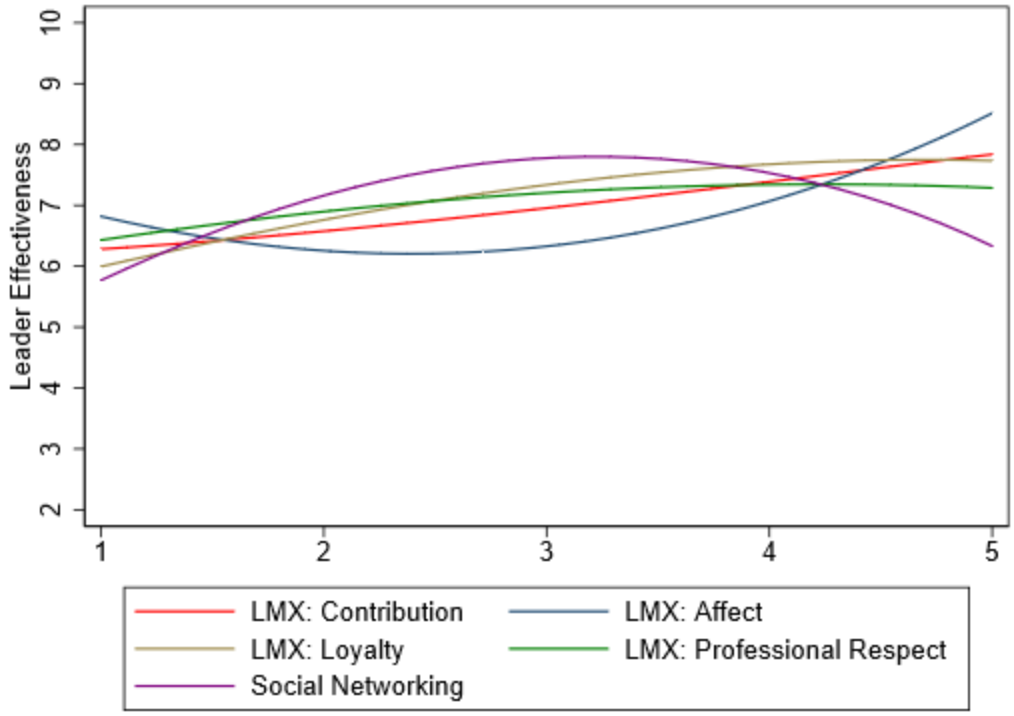


Figure A80.2. Judgment policy by leadership quality for Case 80 based on predicted leader-effectiveness scores from quadric regression.

Table A81.1

Case 81 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.89	0.95	0.93	.359	-1.07	2.85
contribution2	-0.09	0.16	-0.54	.597	-0.41	0.24
loyal	-2.44	1.02	-2.40	.024	-4.53	-0.34
loyal2	0.38	0.16	2.33	.028	0.04	0.72
affect	1.36	0.97	1.39	.176	-0.65	3.37
affect2	-0.21	0.17	-1.26	.219	-0.55	0.13
respect	2.23	0.92	2.43	.023	0.34	4.13
respect2	-0.26	0.15	-1.73	.096	-0.58	0.05
network	0.48	0.99	0.48	.634	-1.56	2.51
network2	-0.04	0.16	-0.26	.801	-0.37	0.29

Note. $F_{(10, 25)} = 33.14$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A81.2

Case 81 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.44	0.19	2.34	.026	0.33
loyal	-0.02	0.21	-0.10	.917	-0.02
affect	0.25	0.20	1.27	.215	0.18
respect	0.71	0.19	3.79	.001	0.53
network	0.33	0.21	1.59	.123	0.22

Note. $F_{(5, 30)} = 56.72$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 81 Observed Judgment Policy of School Building Leader Effectiveness

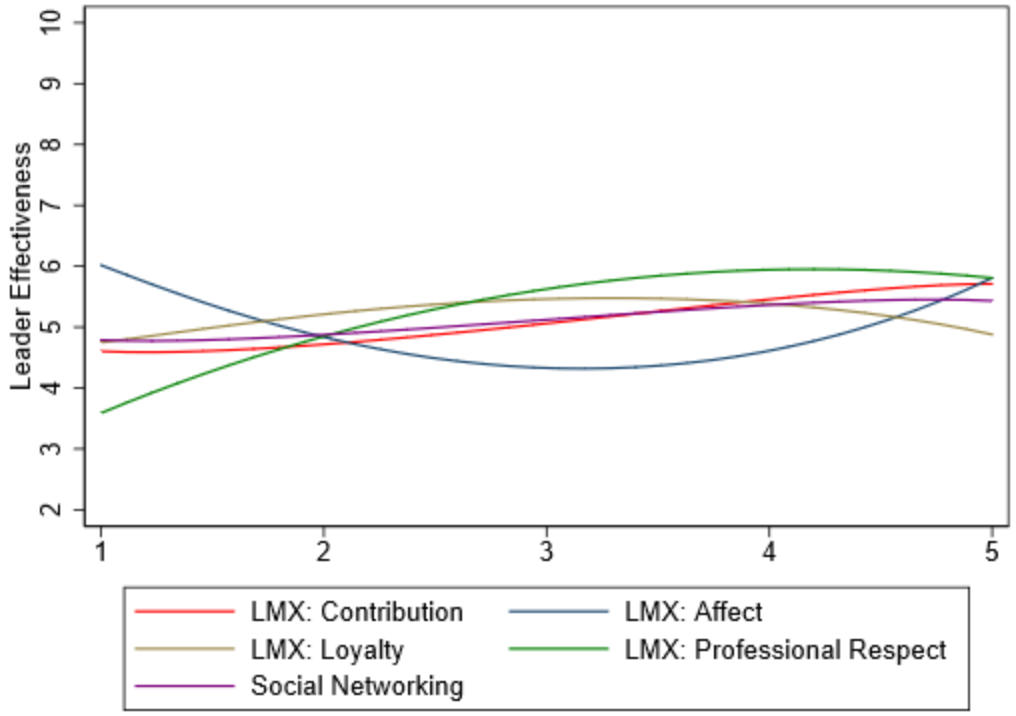


Figure A81.1. Judgment policy by leadership quality for Case 81 based on observed leader-effectiveness scores.

Case 81 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

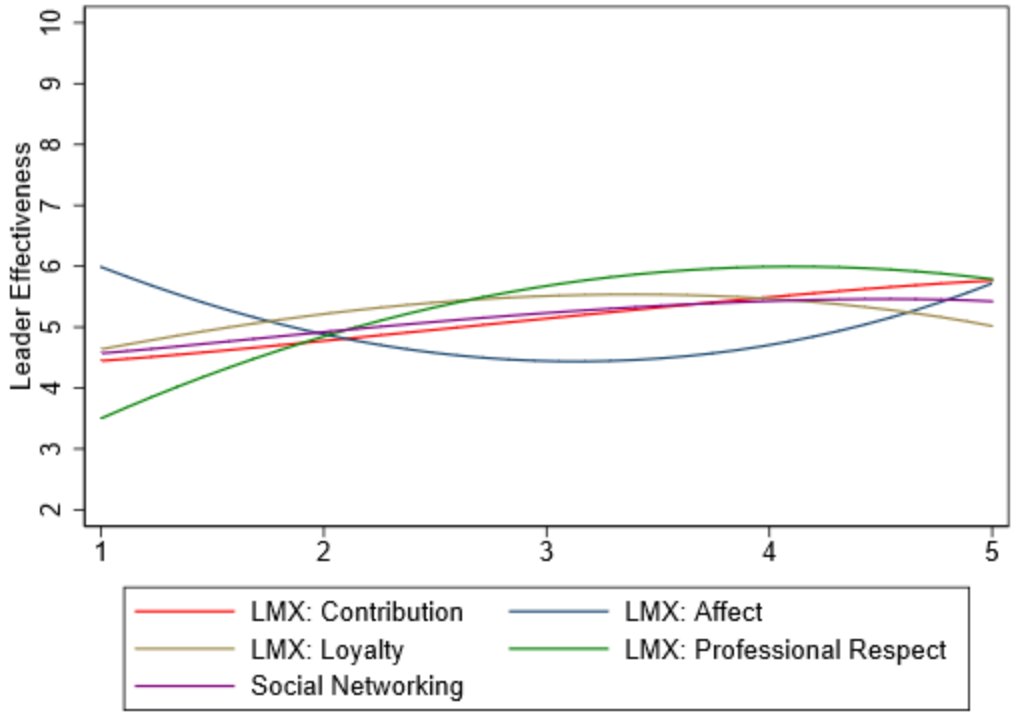


Figure A81.2. Judgment policy by leadership quality for Case 81 based on predicted leader-effectiveness scores from quadric regression.

Table A82.1

Case 82 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.39	1.11	-0.35	.728	-2.68	1.90
contrib2	0.09	0.19	0.48	.634	-0.29	0.47
loyal	-3.00	1.19	-2.53	.018	-5.45	-0.56
loyal2	0.52	0.19	2.69	.012	0.12	0.92
affect	2.30	1.10	2.09	.047	0.03	4.57
affect2	-0.37	0.19	-1.99	.057	-0.75	0.01
respect	1.70	1.07	1.58	.125	-0.51	3.91
respect2	-0.13	0.18	-0.74	.469	-0.50	0.23
network	1.41	1.15	1.23	.231	-0.95	3.78
network2	-0.16	0.19	-0.85	.403	-0.54	0.23

Note. $F_{(10, 26)} = 30.00$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A82.2

Case 82 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.22	0.62	.541	0.08
loyal	0.18	0.24	0.74	.467	0.10
affect	0.15	0.23	0.65	.521	0.08
respect	0.90	0.22	4.09	.000	0.51
network	0.47	0.24	1.92	.065	0.24

Note. $F_{(5, 31)} = 49.57$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Case 82 Observed Judgment Policy of School Building Leader Effectiveness

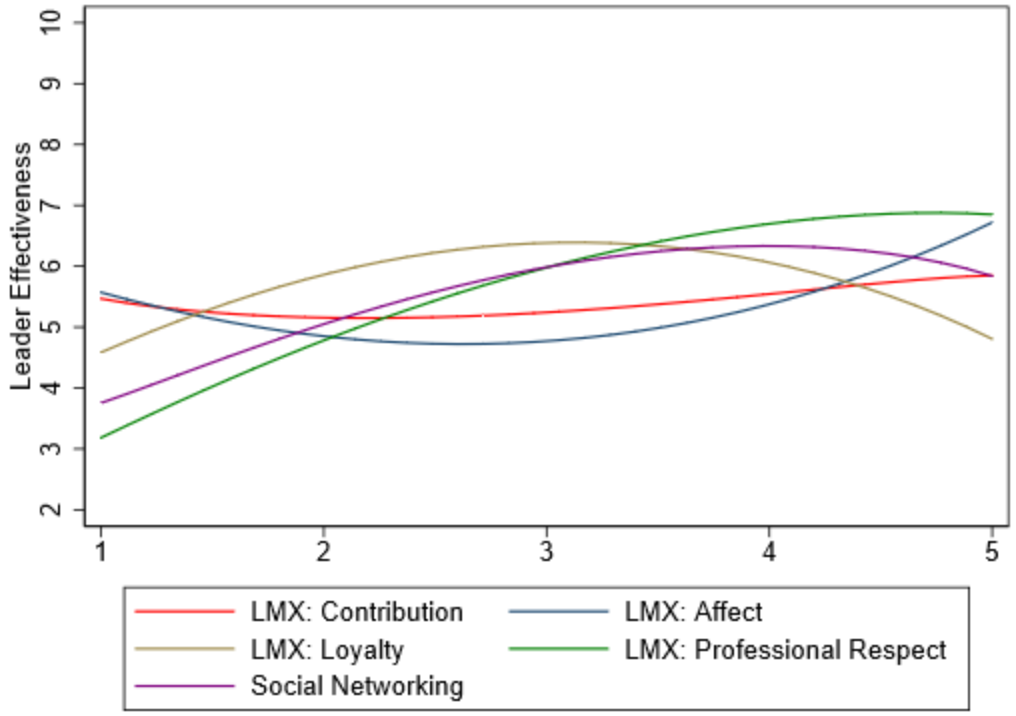


Figure A82.1. Judgment policy by leadership quality for Case 82 based on observed leader-effectiveness scores.

Case 82 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

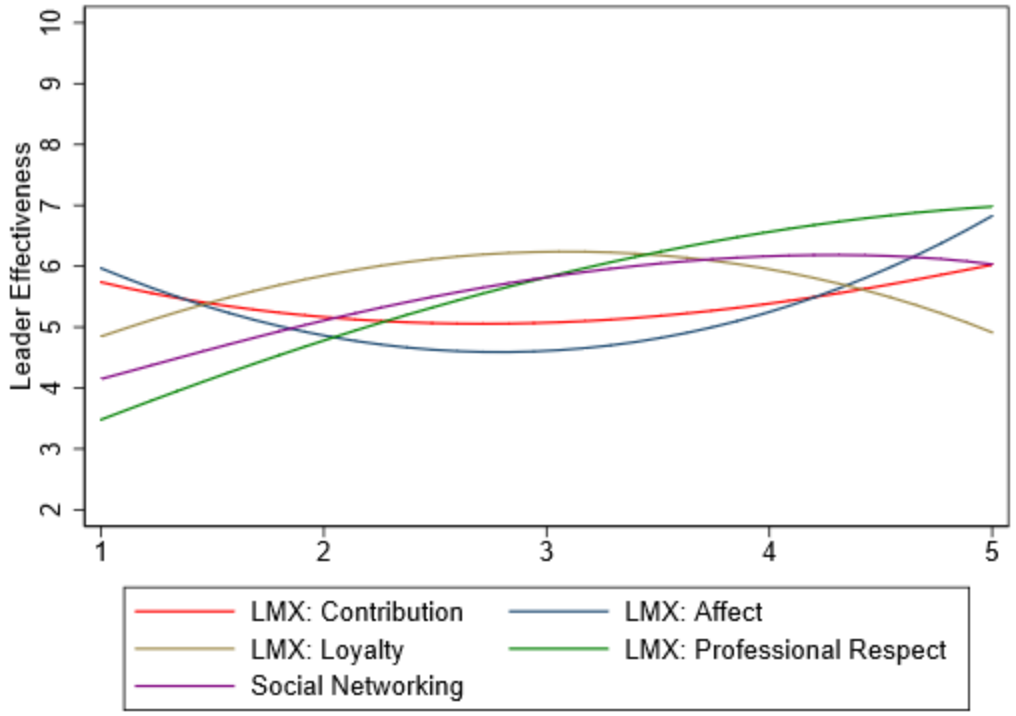


Figure A82.2. Judgment policy by leadership quality for Case 82 based on predicted leader-effectiveness scores from quadric regression.

Table A83.1

Case 83 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.10	0.74	0.13	.895	-1.41	1.61
contribution2	0.01	0.12	0.08	.938	-0.24	0.26
loyal	-1.09	0.79	-1.39	.176	-2.71	0.52
loyal2	0.22	0.13	1.75	.092	-0.04	0.49
affect	1.30	0.73	1.78	.087	-0.20	2.79
affect2	-0.22	0.12	-1.76	.091	-0.47	0.04
respect	1.07	0.71	1.51	.143	-0.39	2.53
respect2	-0.10	0.12	-0.82	.421	-0.34	0.15
network	1.20	0.76	1.57	.129	-0.37	2.76
network2	-0.12	0.12	-0.98	.337	-0.38	0.13

Note. $F_{(10, 26)} = 65.12$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A83.2

Case 83 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.22	0.14	1.57	.127	0.20
loyal	0.34	0.15	2.25	.032	0.29
affect	0.12	0.14	0.81	.422	0.10
respect	0.58	0.14	4.16	.000	0.51
network	0.55	0.15	3.57	.001	0.45

Note. $F_{(5, 31)} = 120.20$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 83 Observed Judgment Policy of School Building Leader Effectiveness

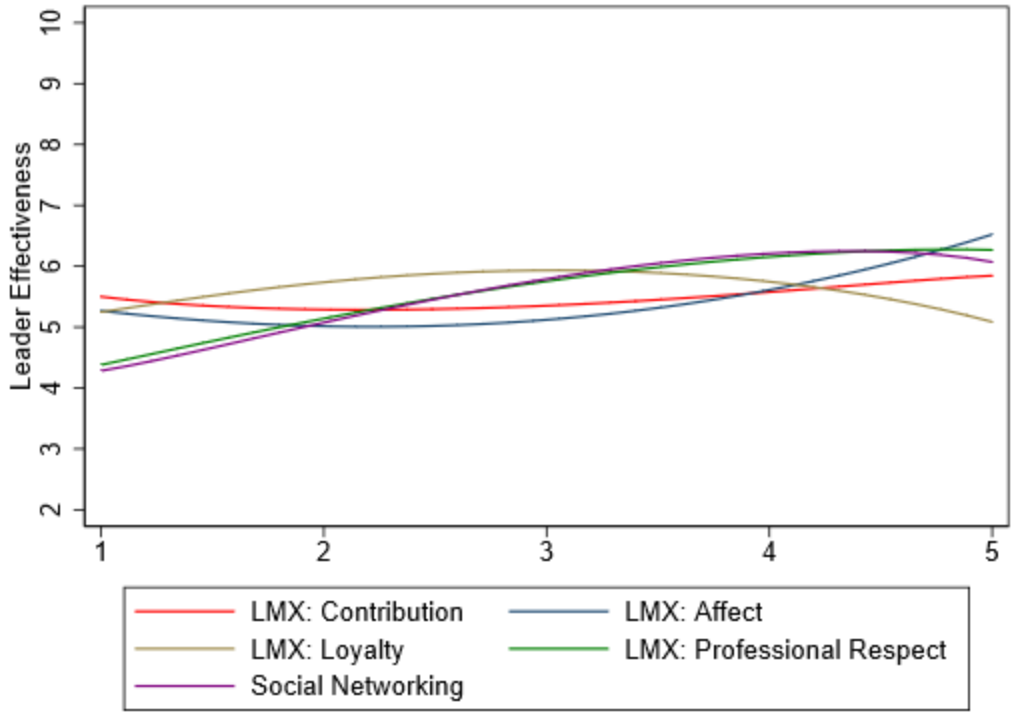


Figure A83.1. Judgment policy by leadership quality for Case 83 based on observed leader-effectiveness scores.

Case 83 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

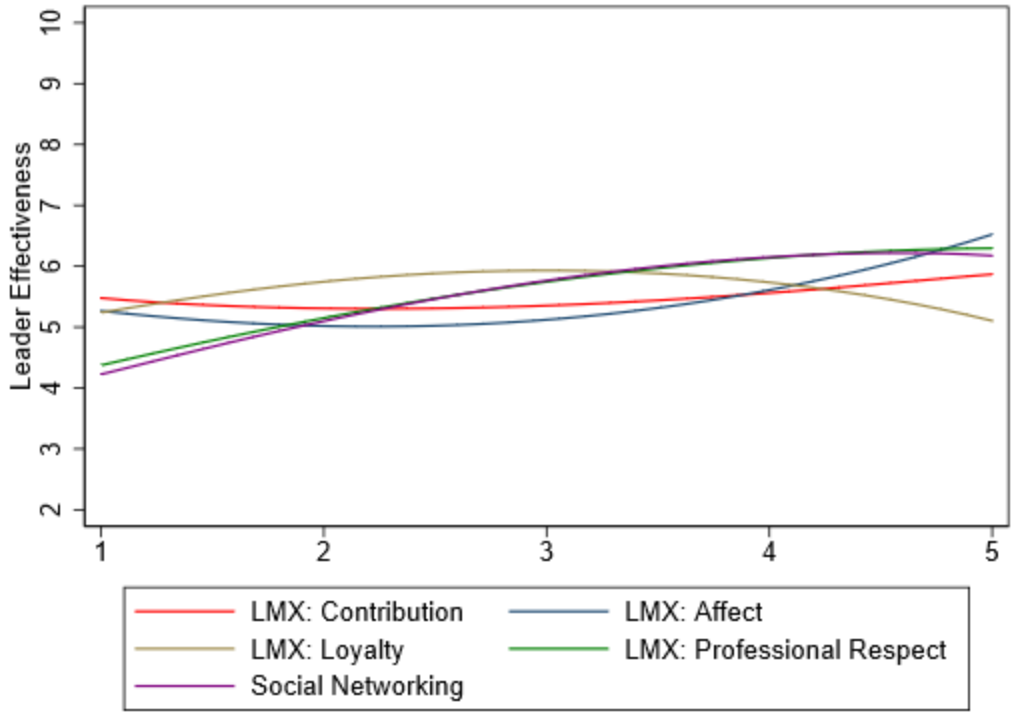


Figure A83.2. Judgment policy by leadership quality for Case 83 based on predicted leader-effectiveness scores from quadric regression.

Table A84.1

Case 84 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.61	1.17	1.37	.181	-0.80	4.03
contribution2	-0.24	0.20	-1.23	.230	-0.64	0.16
loyal	-1.28	1.26	-1.02	.317	-3.86	1.30
loyal2	0.24	0.20	1.19	.243	-0.18	0.66
affect	0.79	1.16	0.68	.501	-1.60	3.19
affect2	-0.06	0.20	-0.31	.760	-0.46	0.34
respect	0.44	1.13	0.39	.702	-1.89	2.77
respect2	0.02	0.19	0.08	.935	-0.37	0.40
network	1.46	1.22	1.20	.240	-1.04	3.96
network2	-0.14	0.20	-0.73	.474	-0.55	0.26

Note. $F_{(10, 26)} = 40.78$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A84.2

Case 84 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.21	1.23	.226	0.19
loyal	0.27	0.23	1.19	.242	0.19
affect	0.54	0.22	2.51	.018	0.39
respect	0.58	0.21	2.78	.009	0.41
network	0.67	0.23	2.89	.007	0.44

Note. $F_{(5, 31)} = 86.03$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 84 Observed Judgment Policy of School Building Leader Effectiveness

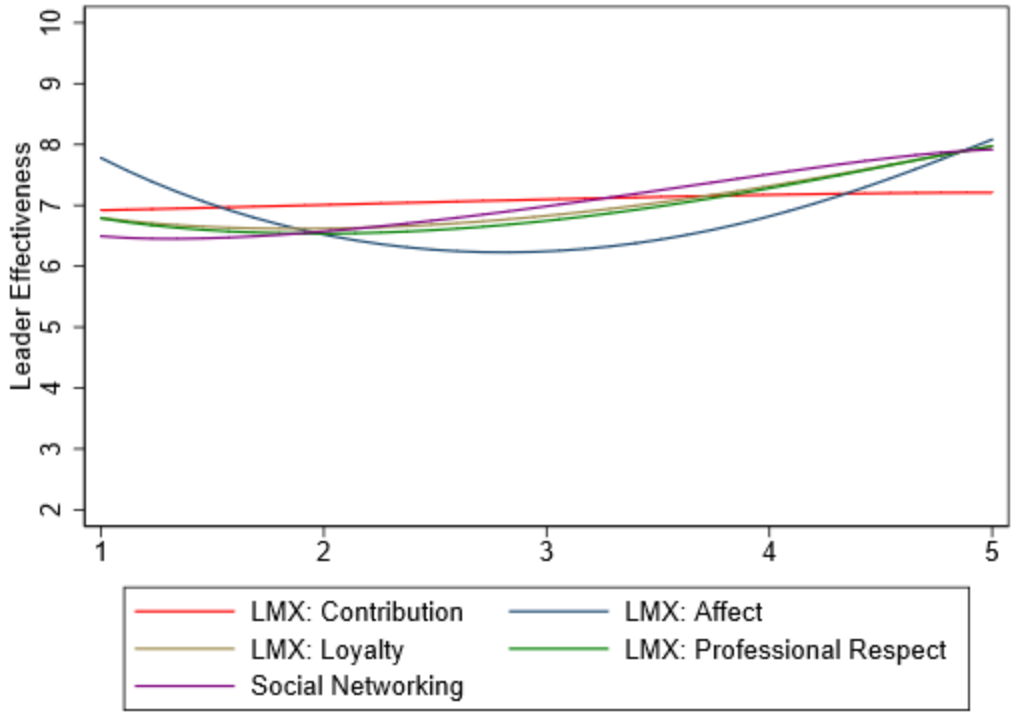


Figure A84.1. Judgment policy by leadership quality for Case 84 based on observed leader-effectiveness scores.

Case 84 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

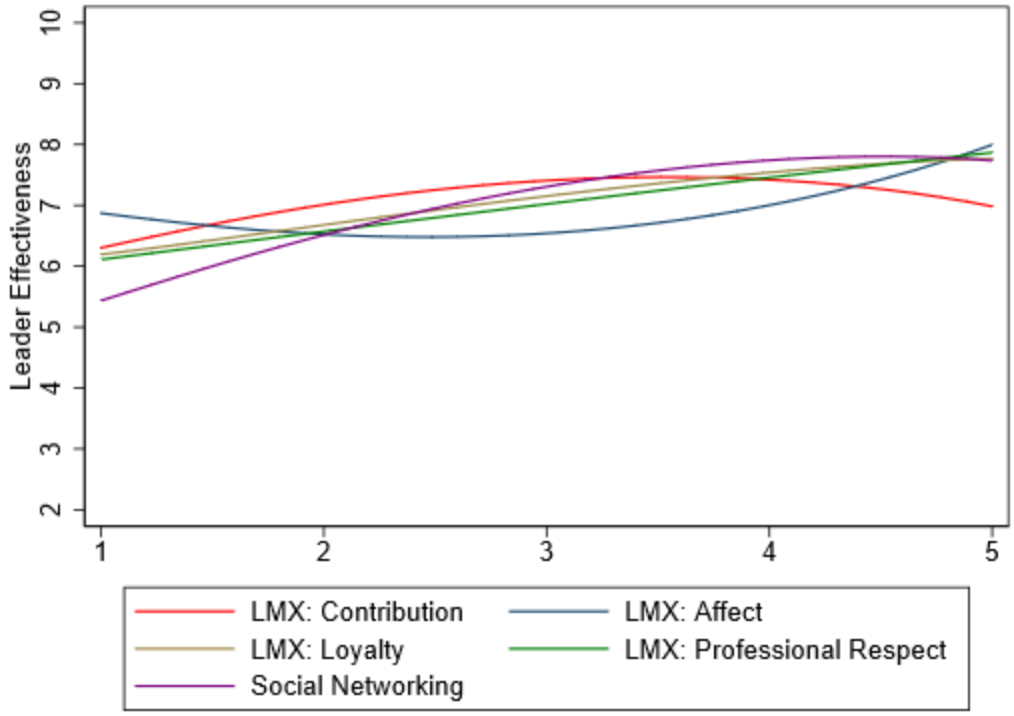


Figure A84.2. Judgment policy by leadership quality for Case 84 based on predicted leader-effectiveness scores from quadric regression.

Table A85.1

Case 85 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.07	1.22	0.05	.957	-2.45	2.58
contribution2	-0.02	0.20	-0.10	.919	-0.44	0.40
loyal	-0.61	1.31	-0.47	.644	-3.30	2.08
loyal2	0.17	0.21	0.82	.422	-0.26	0.61
affect	-0.58	1.21	-0.48	.636	-3.08	1.91
affect2	0.11	0.20	0.52	.609	-0.31	0.52
respect	1.30	1.18	1.10	.283	-1.13	3.72
respect2	-0.06	0.20	-0.33	.747	-0.47	0.34
network	2.28	1.27	1.80	.083	-0.32	4.89
network2	-0.27	0.21	-1.31	.202	-0.69	0.15

Note. $F_{(10, 26)} = 34.81$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A85.2

Case 85 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.01	0.22	0.06	.955	0.01
loyal	0.49	0.23	2.10	.044	0.26
affect	0.09	0.22	0.39	.696	0.05
respect	0.94	0.21	4.39	.000	0.51
network	0.66	0.24	2.76	.010	0.33

Note. $F_{(5, 31)} = 75.53$ ($p < .001$), $R^2 = .92$, Adjusted $R2 = .91$

Case 85 Observed Judgment Policy of School Building Leader Effectiveness

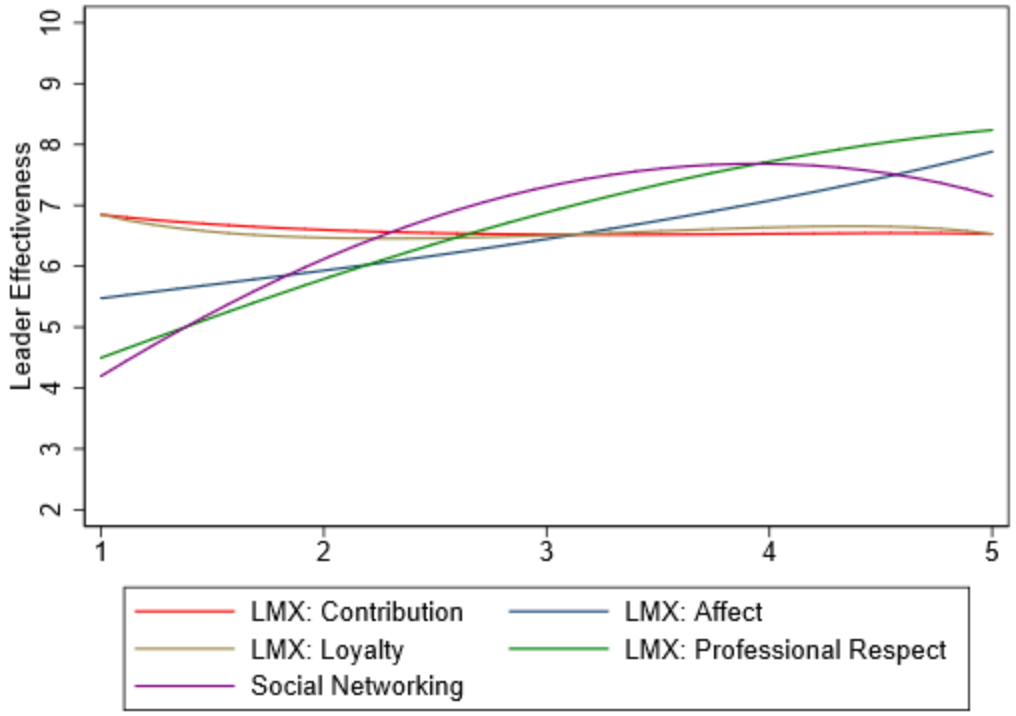


Figure A85.1. Judgment policy by leadership quality for Case 85 based on observed leader-effectiveness scores.

Case 85 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

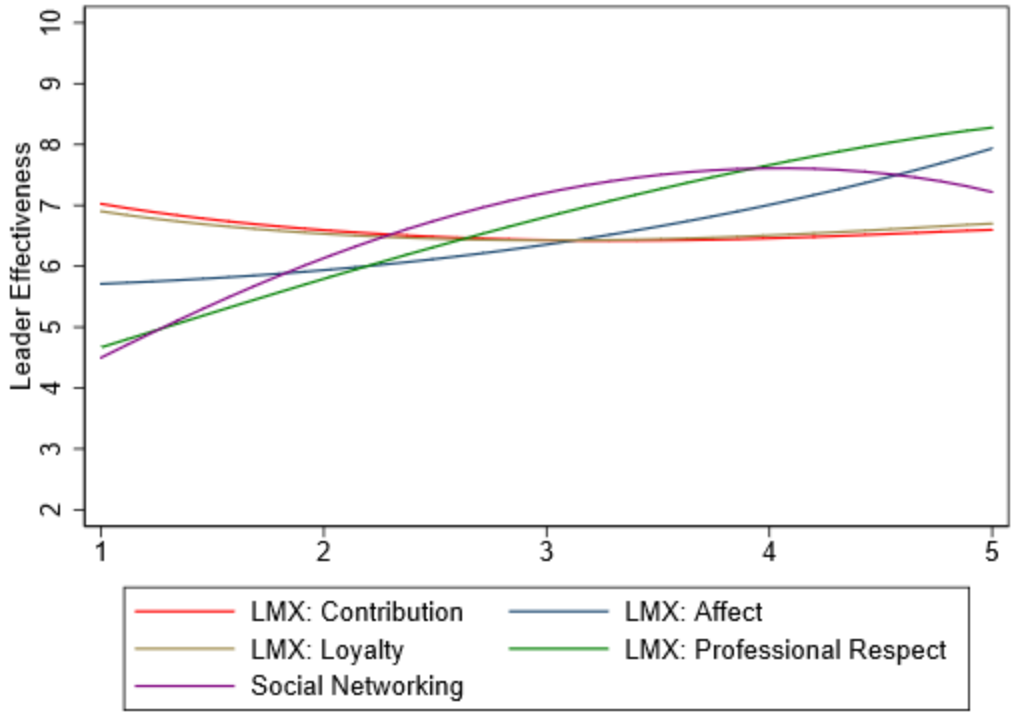


Figure A85.2. Judgment policy by leadership quality for Case 85 based on predicted leader-effectiveness scores from quadric regression.

Table A86.1

Case 86 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.06	0.73	0.08	.937	-1.44	1.56
contribution2	0.01	0.12	0.09	.926	-0.24	0.26
loyal	-1.71	0.78	-2.19	.038	-3.32	-0.11
loyal2	0.31	0.13	2.45	.021	0.05	0.57
affect	1.02	0.72	1.41	.169	-0.47	2.51
affect2	-0.18	0.12	-1.51	.143	-0.43	0.07
respect	1.48	0.71	2.10	.046	0.03	2.93
respect2	-0.11	0.12	-0.96	.346	-0.35	0.13
network	1.63	0.76	2.15	.041	0.07	3.18
network2	-0.20	0.12	-1.66	.110	-0.46	0.05

Note. $F_{(10, 26)} = 67.45$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A86.2

Case 86 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.20	0.15	1.34	.189	0.15
loyal	0.25	0.16	1.62	.116	0.19
affect	0.03	0.15	0.17	.864	0.02
respect	0.87	0.14	6.06	.000	0.66
network	0.46	0.16	2.88	.007	0.32

Note. $F_{(5, 31)} = 114.17$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 86 Observed Judgment Policy of School Building Leader Effectiveness

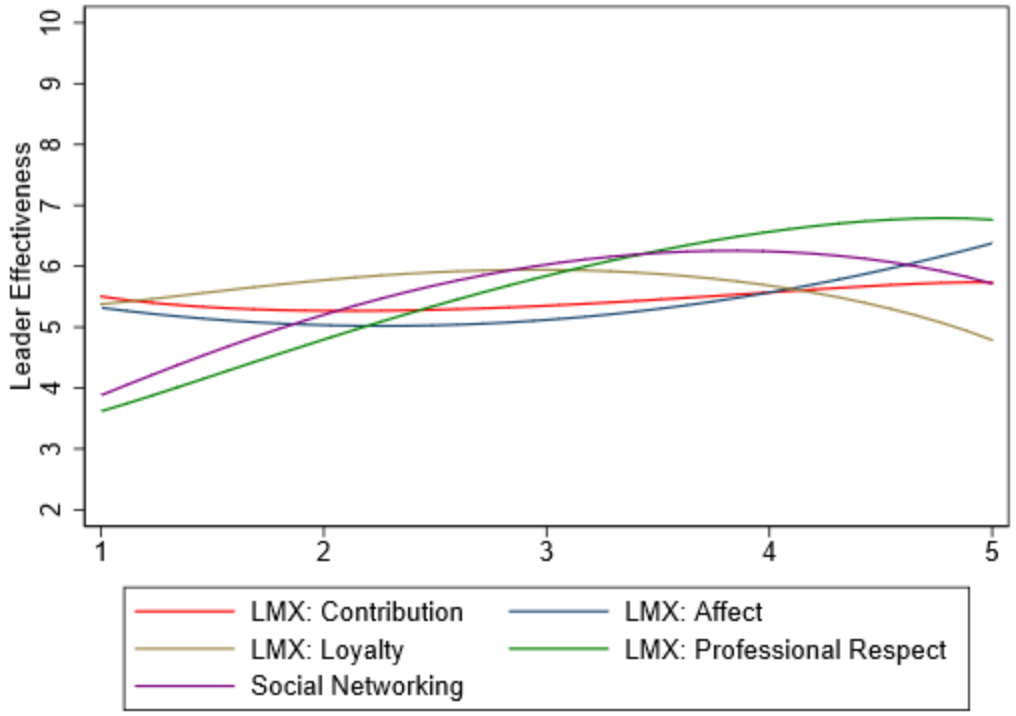


Figure A86.1. Judgment policy by leadership quality for Case 86 based on observed leader-effectiveness scores.

Case 86 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

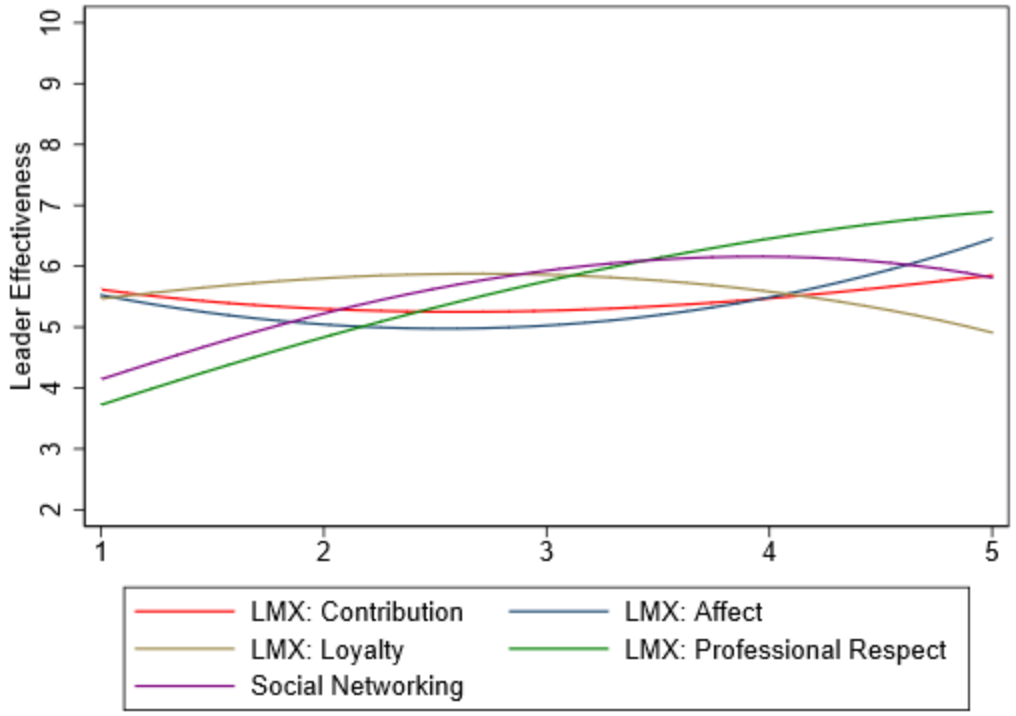


Figure A86.2. Judgment policy by leadership quality for Case 86 based on predicted leader-effectiveness scores from quadric regression.

Table A87.1

Case 87 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.63	1.48	-0.42	.676	-3.67	2.42
contribution2	0.17	0.25	0.70	.491	-0.34	0.68
loyal	1.77	1.59	1.12	.275	-1.49	5.03
loyal2	-0.27	0.26	-1.06	.300	-0.80	0.26
affect	1.34	1.47	0.91	.372	-1.69	4.36
affect2	-0.17	0.25	-0.67	.508	-0.67	0.34
respect	-0.12	1.43	-0.09	.932	-3.07	2.82
respect2	-0.02	0.24	-0.08	.937	-0.51	0.47
network	0.12	1.54	0.08	.936	-3.03	3.28
network2	0.03	0.25	0.11	.911	-0.49	0.54

Note. $F_{(10, 26)} = 11.24$ ($p < .001$), $R^2 = .81$, Adjusted $R^2 = .74$

Table A87.2

Case 87 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.48	0.27	1.82	.078	0.28
loyal	0.21	0.28	0.73	.472	0.11
affect	0.45	0.27	1.67	.106	0.25
respect	-0.05	0.26	-0.18	.861	-0.03
network	0.42	0.29	1.46	.155	0.22

Note. $F_{(5, 31)} = 23.87$ ($p < .001$), $R^2 = .80$, Adjusted $R^2 = .76$

Case 87 Observed Judgment Policy of School Building Leader Effectiveness

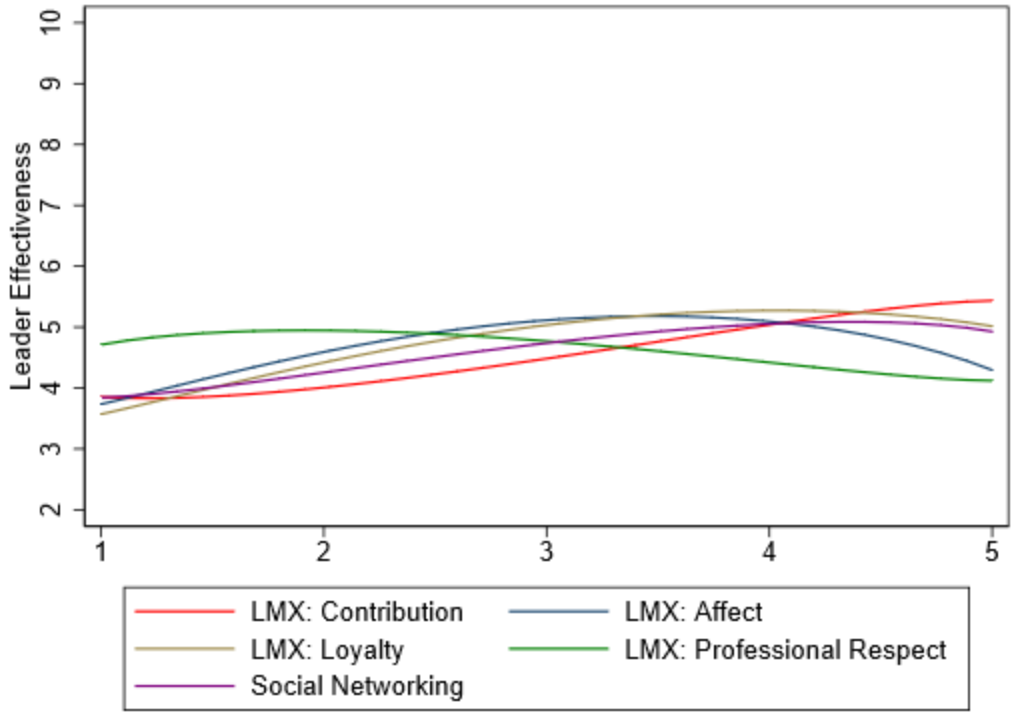


Figure A87.1. Judgment policy by leadership quality for Case 87 based on observed leader-effectiveness scores.

Case 87 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

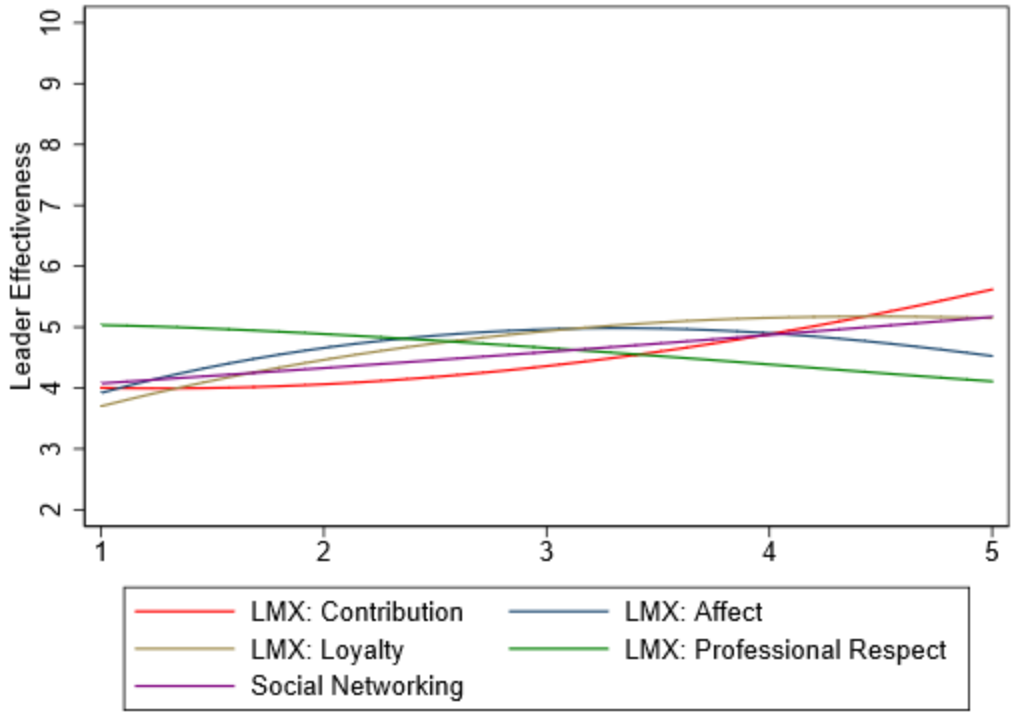


Figure A87.2. Judgment policy by leadership quality for Case 87 based on predicted leader-effectiveness scores from quadric regression.

Table A88.1

Case 88 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.77	0.65	1.19	.246	-0.56	2.10
contribution2	-0.10	0.11	-0.94	.357	-0.32	0.12
loyal	-0.15	0.69	-0.22	.829	-1.57	1.27
loyal2	0.07	0.11	0.64	.526	-0.16	0.30
affect	0.45	0.64	0.70	.492	-0.87	1.77
affect2	-0.04	0.11	-0.39	.698	-0.26	0.18
respect	1.52	0.62	2.44	.022	0.24	2.80
respect2	-0.15	0.10	-1.42	.167	-0.36	0.07
network	-0.06	0.67	-0.09	.928	-1.44	1.32
network2	0.10	0.11	0.90	.376	-0.13	0.32

Note. $F_{(10, 26)} = 106.10$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A88.2

Case 88 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.12	1.60	.120	0.19
loyal	0.33	0.13	2.62	.013	0.32
affect	0.26	0.12	2.18	.037	0.26
respect	0.67	0.12	5.70	.000	0.65
network	0.60	0.13	4.60	.000	0.53

Note. $F_{(5, 31)} = 216.57$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .97$

Case 88 Observed Judgment Policy of School Building Leader Effectiveness

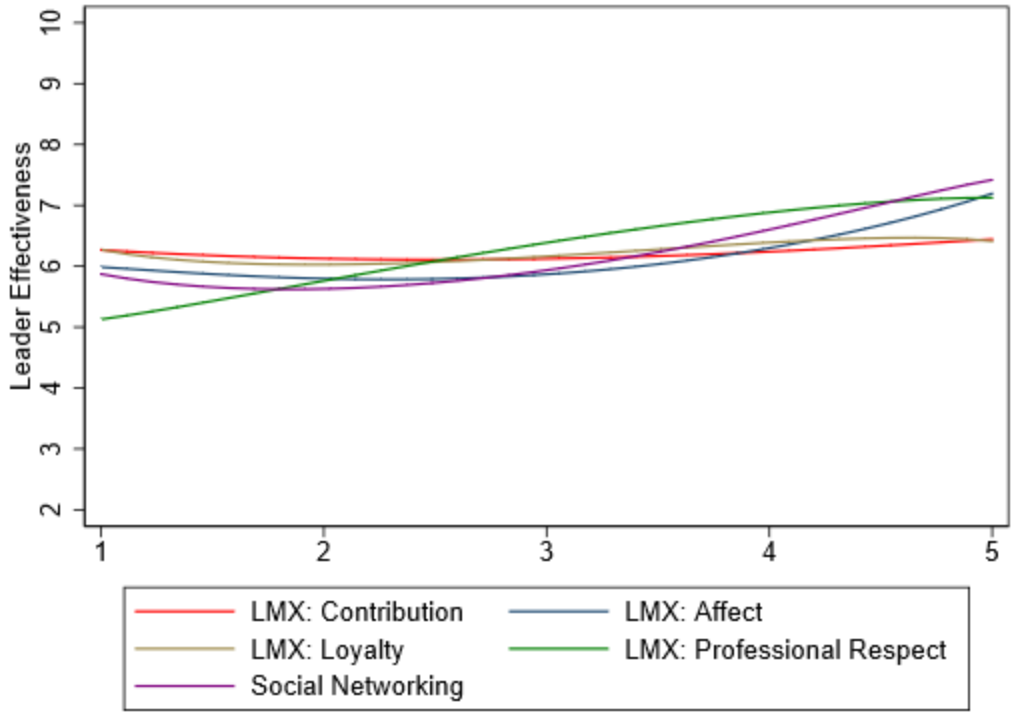


Figure A88.1. Judgment policy by leadership quality for Case 88 based on observed leader-effectiveness scores.

Case 88 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

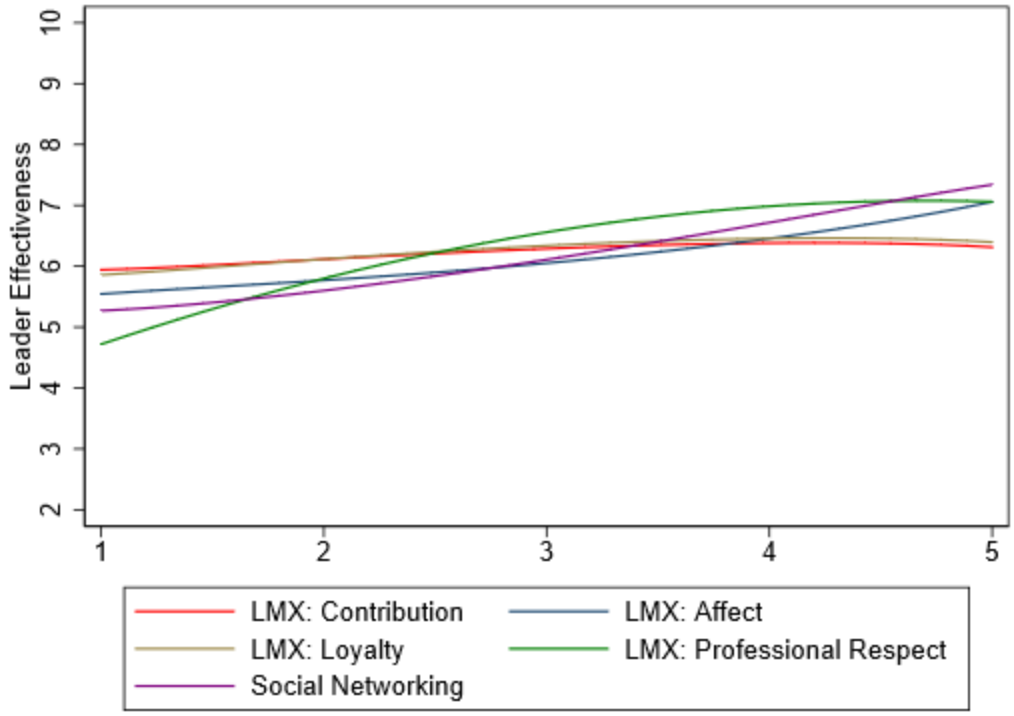


Figure A88.2. Judgment policy by leadership quality for Case 88 based on predicted leader-effectiveness scores from quadric regression.

Table A89.1

Case 89 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.61	1.35	1.19	.244	-1.17	4.39
contribution2	-0.22	0.23	-1.00	.329	-0.69	0.24
loyal	-2.44	1.44	-1.69	.103	-5.40	0.53
loyal2	0.40	0.23	1.70	.101	-0.08	0.88
affect	1.80	1.34	1.34	.191	-0.95	4.55
affect2	-0.30	0.23	-1.32	.197	-0.76	0.16
respect	-0.05	1.30	-0.04	.972	-2.73	2.63
respect2	0.08	0.22	0.39	.699	-0.36	0.53
network	2.45	1.40	1.75	.092	-0.43	5.32
network2	-0.33	0.23	-1.46	.157	-0.80	0.14

Note. $F_{(10, 26)} = 23.18$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A89.2

Case 89 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.43	0.26	1.65	.109	0.26
loyal	0.12	0.28	0.42	.674	0.07
affect	0.22	0.27	0.83	.411	0.13
respect	0.61	0.26	2.38	.023	0.36
network	0.60	0.28	2.10	.044	0.32

Note. $F_{(5, 31)} = 41.80$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 89 Observed Judgment Policy of School Building Leader Effectiveness

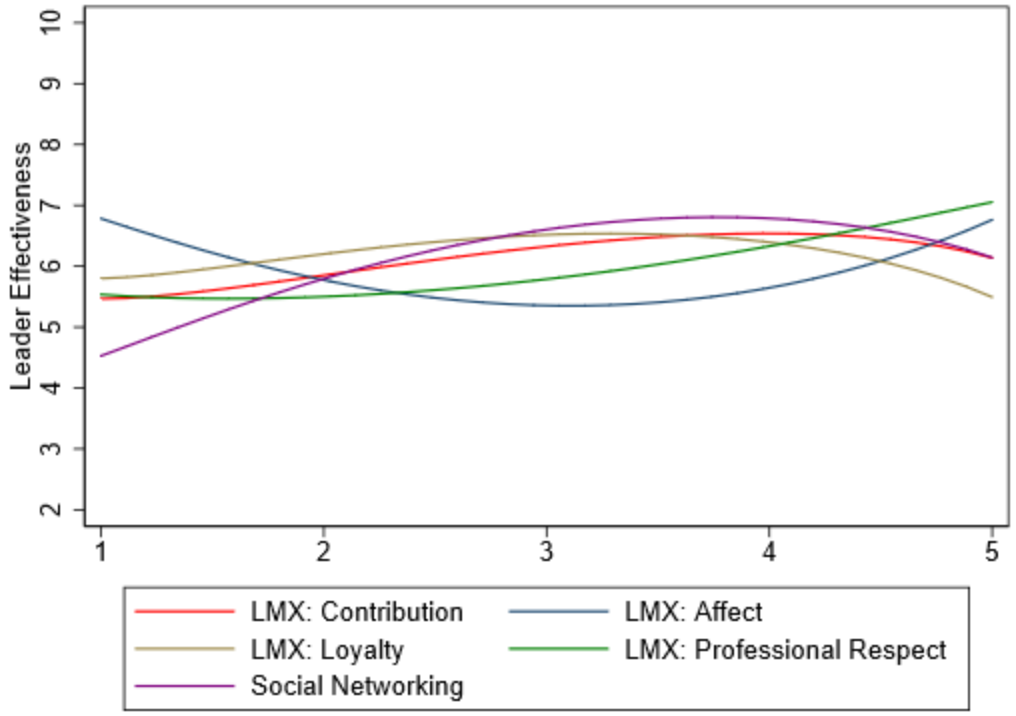


Figure A89.1. Judgment policy by leadership quality for Case 89 based on observed leader-effectiveness scores.

Case 89 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

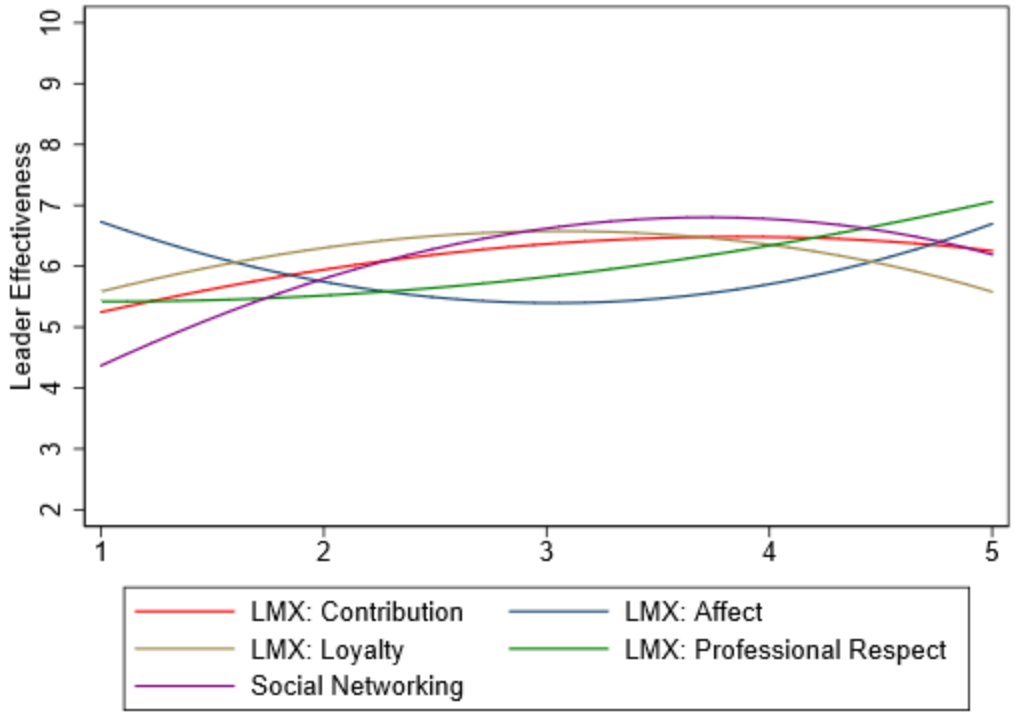


Figure A89.2. Judgment policy by leadership quality for Case 89 based on predicted leader-effectiveness scores from quadric regression.

Table A90.1

Case 90 SJA *Quadratic Regression Results*

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.02	1.20	0.86	.400	-1.44	3.49
contribution2	-0.13	0.20	-0.67	.512	-0.54	0.28
loyal	-1.42	1.28	-1.11	.278	-4.05	1.21
loyal2	0.31	0.21	1.50	.147	-0.12	0.74
affect	1.04	1.19	0.87	.390	-1.40	3.48
affect2	-0.16	0.20	-0.79	.436	-0.57	0.25
respect	2.32	1.16	2.01	.055	-0.05	4.70
respect2	-0.30	0.19	-1.59	.124	-0.70	0.09
network	-0.23	1.24	-0.19	.853	-2.78	2.32
network2	0.05	0.20	0.25	.805	-0.36	0.46

Note. $F_{(10, 26)} = 25.15$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A90.2

Case 90 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.29	0.23	1.29	.208	0.20
loyal	0.57	0.24	2.36	.025	0.37
affect	0.24	0.23	1.03	.310	0.16
respect	0.54	0.22	2.47	.019	0.37
network	0.19	0.25	0.78	.444	0.12

Note. $F_{(5, 31)} = 48.52$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 90 Observed Judgment Policy of School Building Leader Effectiveness

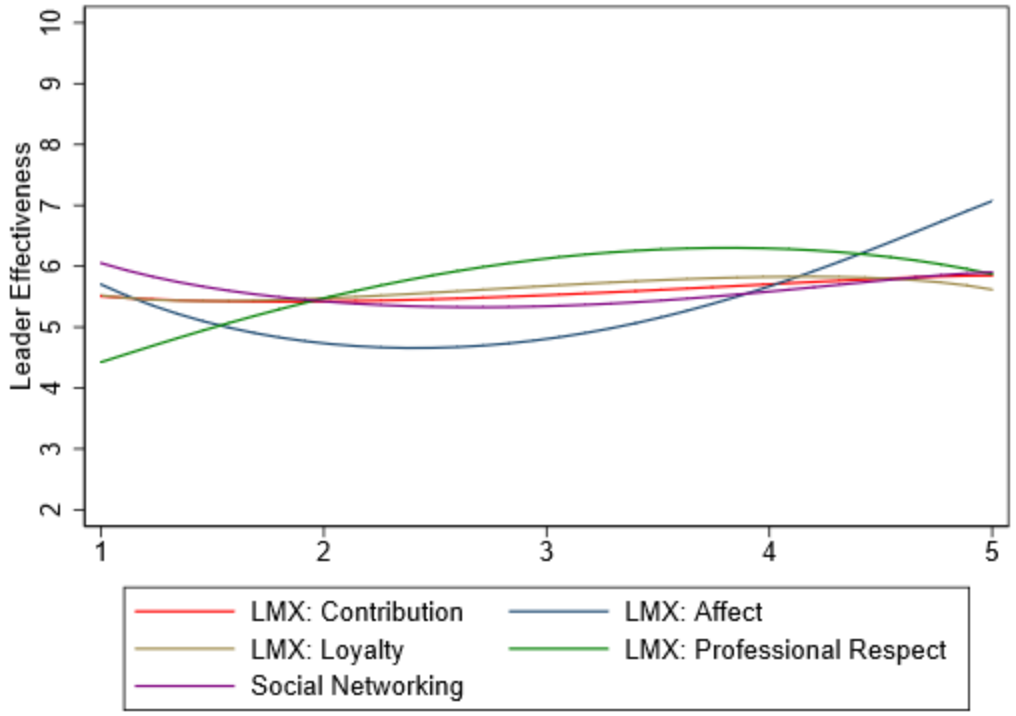


Figure A90.1. Judgment policy by leadership quality for Case 90 based on observed leader-effectiveness scores.

Case 90 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

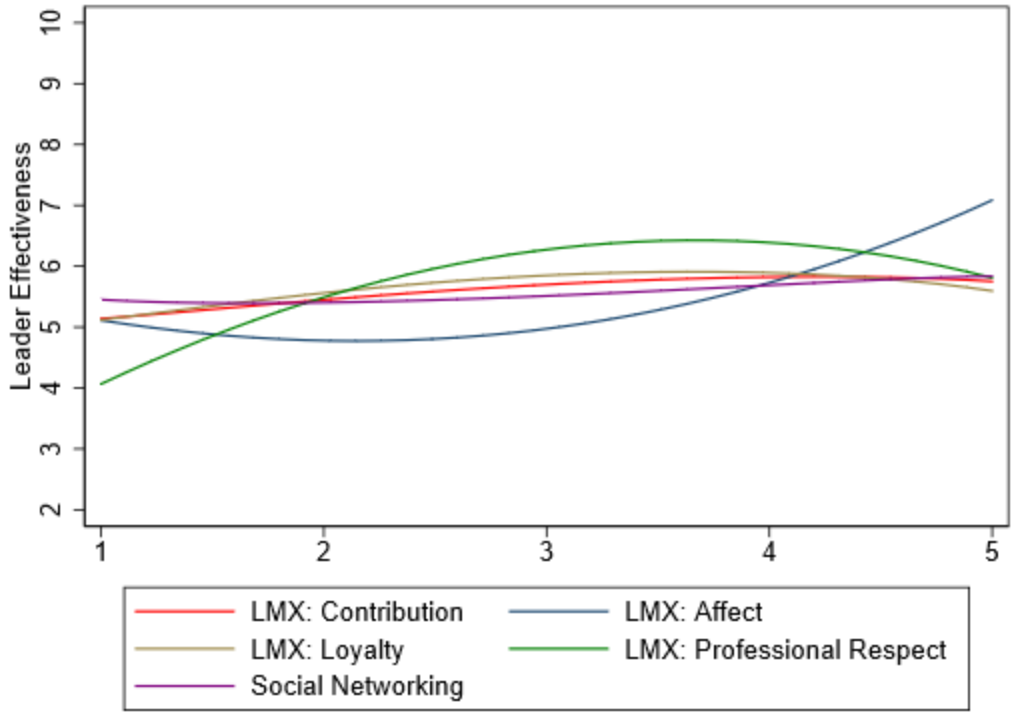


Figure A90.2. Judgment policy by leadership quality for Case 90 based on predicted leader-effectiveness scores from quadric regression.

Table A91.1

Case 91 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.19	0.81	-0.23	.817	-1.86	1.48
contribution2	0.01	0.14	0.11	.915	-0.26	0.29
loyal	-0.47	0.87	-0.54	.592	-2.25	1.31
loyal2	0.13	0.14	0.91	.369	-0.16	0.42
affect	1.09	0.80	1.35	.188	-0.57	2.74
affect2	-0.21	0.14	-1.53	.137	-0.49	0.07
respect	1.49	0.78	1.90	.069	-0.12	3.10
respect2	-0.08	0.13	-0.63	.534	-0.35	0.18
network	1.42	0.84	1.69	.103	-0.31	3.15
network2	-0.23	0.14	-1.65	.112	-0.51	0.06

Note. $F_{(10, 26)} = 64.92$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A91.2

Case 91 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.05	0.16	0.28	.779	0.03
loyal	0.46	0.17	2.68	.012	0.31
affect	0.03	0.16	0.18	.861	0.02
respect	1.19	0.16	7.55	.000	0.83
network	0.22	0.18	1.26	.219	0.14

Note. $F_{(5, 31)} = 113.23$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 91 Observed Judgment Policy of School Building Leader Effectiveness

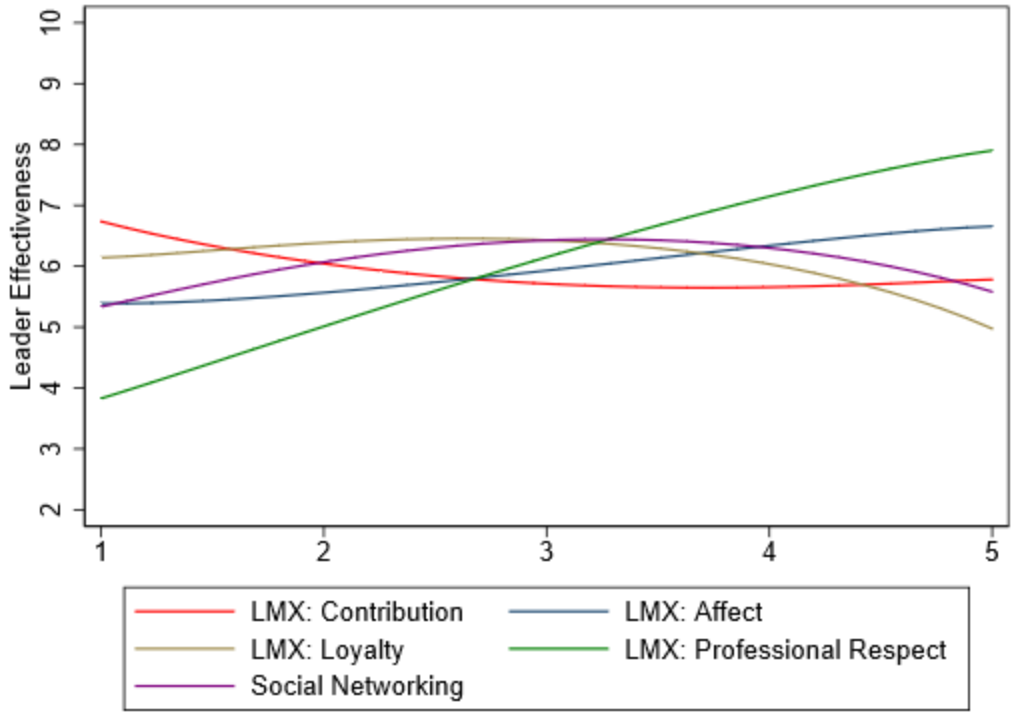


Figure A91.1. Judgment policy by leadership quality for Case 91 based on observed leader-effectiveness scores.

Case 91 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

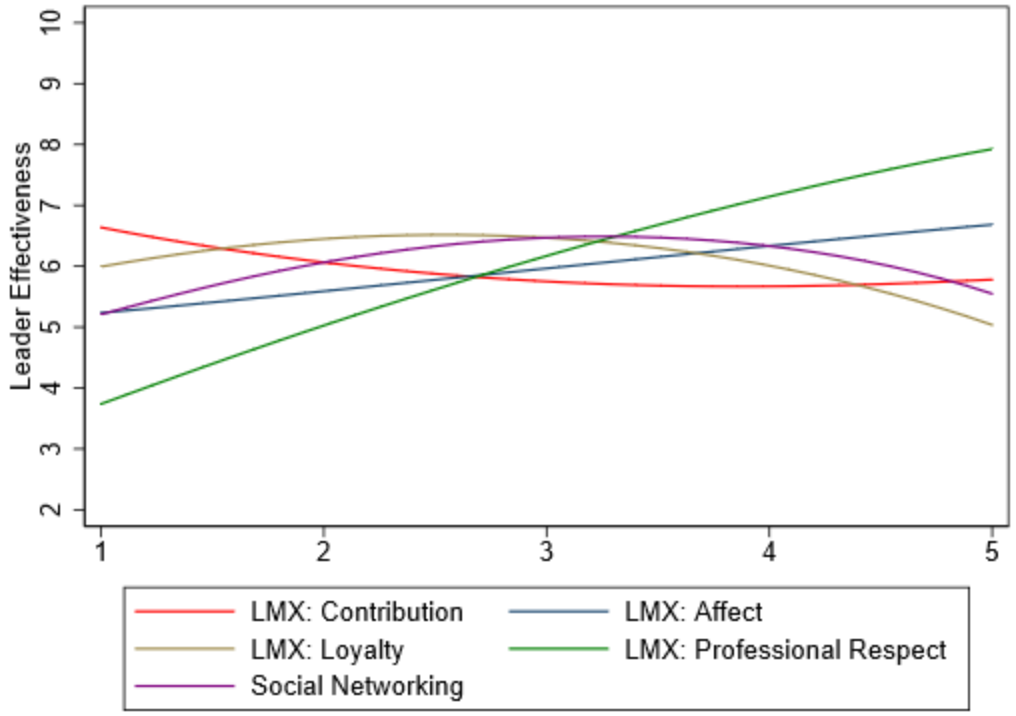


Figure A91.2. Judgment policy by leadership quality for Case 91 based on predicted leader-effectiveness scores from quadric regression.

Table A92.1

Case 92 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.39	0.94	-0.42	.680	-2.32	1.54
contribution2	0.09	0.16	0.57	.571	-0.23	0.41
loyal	-0.47	1.00	-0.47	.641	-2.54	1.59
loyal2	0.11	0.16	0.68	.504	-0.22	0.45
affect	1.11	0.93	1.19	.243	-0.80	3.02
affect2	-0.17	0.16	-1.11	.275	-0.50	0.15
respect	1.71	0.91	1.88	.071	-0.16	3.57
respect2	-0.21	0.15	-1.38	.179	-0.52	0.10
network	1.06	0.97	1.09	.288	-0.94	3.05
network2	-0.15	0.16	-0.93	.362	-0.47	0.18

Note. $F_{(10, 26)} = 38.19$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A92.2

Case 92 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.18	1.48	.148	0.22
loyal	0.34	0.19	1.76	.088	0.27
affect	0.23	0.18	1.26	.215	0.19
respect	0.63	0.17	3.62	.001	0.53
network	0.31	0.19	1.61	.117	0.24

Note. $F_{(5, 31)} = 72.35$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 92 Observed Judgment Policy of School Building Leader Effectiveness

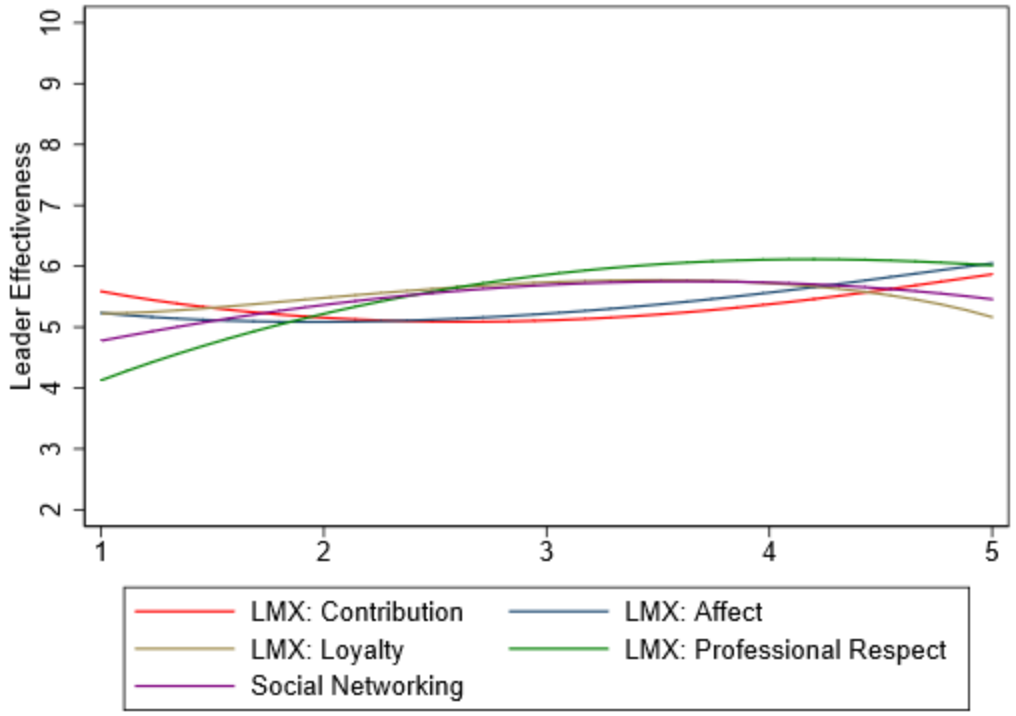


Figure A92.1. Judgment policy by leadership quality for Case 92 based on observed leader-effectiveness scores.

Case 92 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

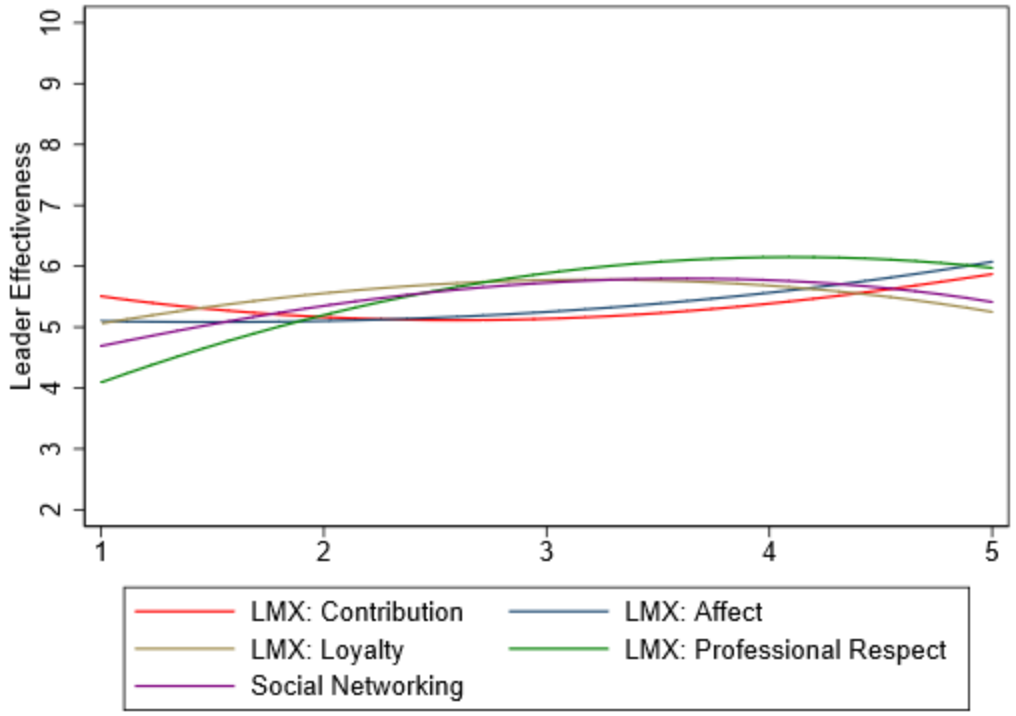


Figure A92.2. Judgment policy by leadership quality for Case 92 based on predicted leader-effectiveness scores from quadric regression.

Table A93.1

Case 93 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.98	1.30	1.52	.140	-0.69	4.66
contribution2	-0.27	0.22	-1.25	.221	-0.72	0.17
loyal	1.67	1.39	1.20	.240	-1.19	4.54
loyal2	-0.20	0.23	-0.87	.392	-0.66	0.27
affect	0.84	1.29	0.65	.524	-1.82	3.49
affect2	-0.08	0.22	-0.35	.728	-0.52	0.37
respect	-0.54	1.26	-0.43	.670	-3.13	2.04
respect2	0.08	0.21	0.36	.721	-0.35	0.50
network	0.80	1.35	0.59	.557	-1.97	3.58
network2	-0.21	0.22	-0.94	.357	-0.66	0.25

Note. $F_{(10, 26)} = 31.45$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A93.2

Case 93 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.64	0.26	2.45	.020	0.46
loyal	0.74	0.28	2.62	.013	0.50
affect	0.70	0.27	2.61	.014	0.49
respect	0.27	0.26	1.06	.298	0.19
network	-0.14	0.29	-0.48	.635	-0.09

Note. $F_{(5, 31)} = 52.38$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .88$

Case 93 Observed Judgment Policy of School Building Leader Effectiveness

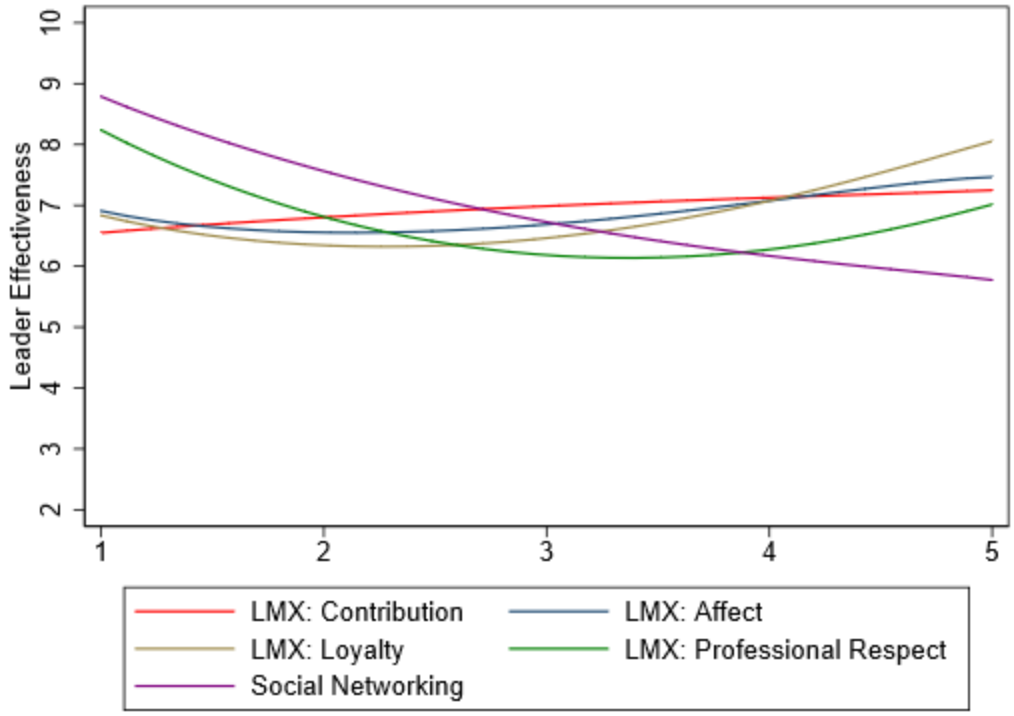


Figure A93.1. Judgment policy by leadership quality for Case 93 based on observed leader-effectiveness scores.

Case 93 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

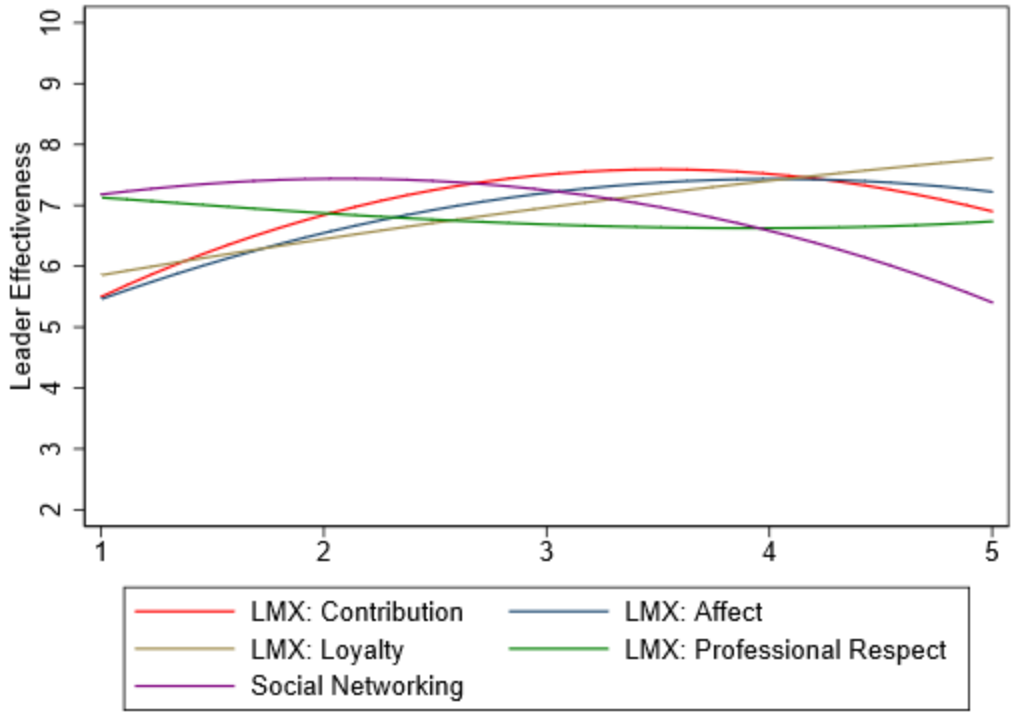


Figure A93.2. Judgment policy by leadership quality for Case 93 based on predicted leader-effectiveness scores from quadric regression.

Table A94.1

*Case 94*SJA *Quadratic Regression Results*

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.40	0.74	-0.54	.595	-1.91	1.12
contribution2	0.10	0.12	0.78	.441	-0.16	0.35
loyal	-2.04	0.79	-2.58	.016	-3.66	-0.41
loyal2	0.34	0.13	2.67	.013	0.08	0.61
affect	1.22	0.73	1.66	.109	-0.29	2.72
affect2	-0.21	0.12	-1.70	.100	-0.46	0.04
respect	0.52	0.71	0.74	.468	-0.94	1.99
respect2	0.08	0.12	0.70	.489	-0.16	0.33
network	1.55	0.76	2.03	.053	-0.02	3.12
network2	-0.14	0.12	-1.13	.267	-0.40	0.11

Note. $F_{(10, 26)} = 48.42$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A94.2

Case 94 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.15	0.72	.478	0.07
loyal	-0.03	0.16	-0.17	.870	-0.02
affect	-0.10	0.15	-0.66	.512	-0.07
respect	0.92	0.15	6.20	.000	0.60
network	0.61	0.17	3.68	.001	0.36

Note. $F_{(5, 31)} = 77.65$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Case 94 Observed Judgment Policy of School Building Leader Effectiveness

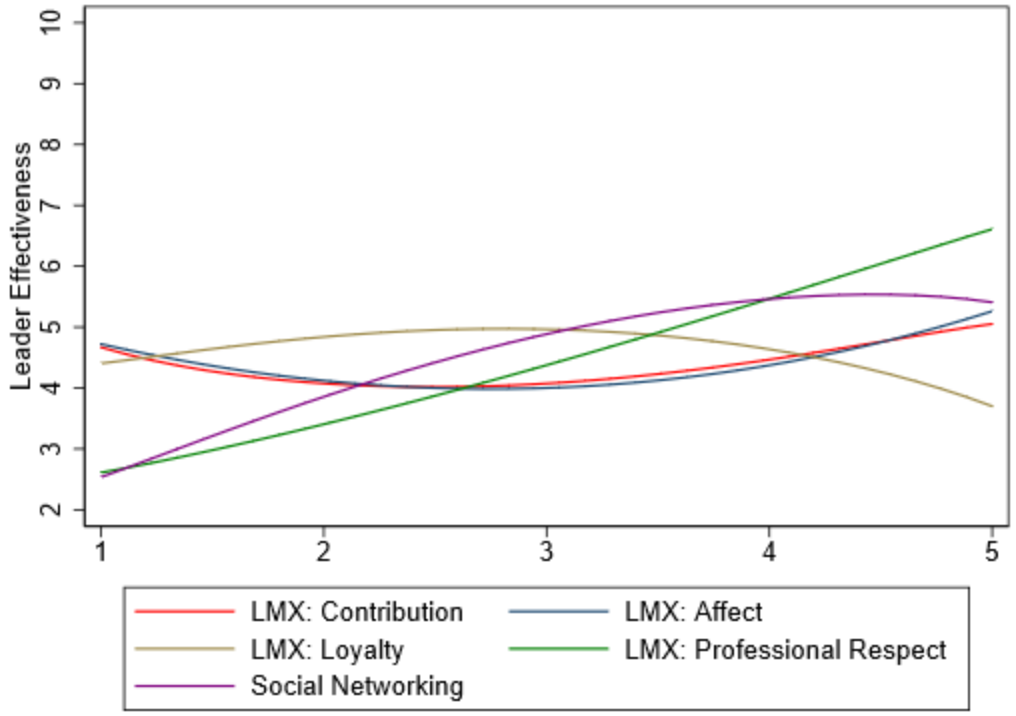


Figure A94.1. Judgment policy by leadership quality for Case 94 based on observed leader-effectiveness scores.

Case 94 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

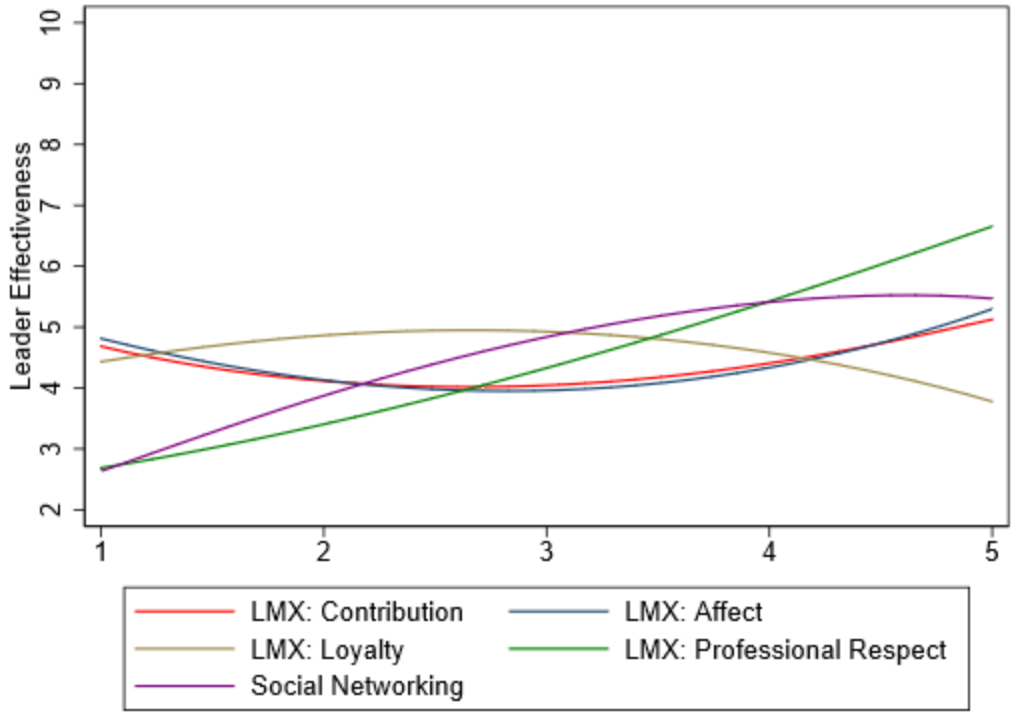


Figure A94.2. Judgment policy by leadership quality for Case 94 based on predicted leader-effectiveness scores from quadric regression.

Table A95.1

Case 95 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.01	1.33	-0.01	.993	-2.74	2.71
contribution2	-0.01	0.22	-0.06	.952	-0.47	0.44
loyal	-0.76	1.42	-0.53	.599	-3.67	2.16
loyal2	0.19	0.23	0.82	.420	-0.28	0.66
affect	0.93	1.31	0.70	.487	-1.77	3.63
affect2	-0.15	0.22	-0.67	.507	-0.60	0.31
respect	1.29	1.28	1.01	.321	-1.34	3.92
respect2	-0.17	0.21	-0.79	.439	-0.60	0.27
network	1.10	1.37	0.80	.431	-1.72	3.92
network2	-0.11	0.22	-0.51	.614	-0.57	0.34

Note. $F_{(10, 26)} = 15.64$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .80$

Table A95.2

Case 95 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.00	0.24	0.00	.999	0.00
loyal	0.50	0.25	1.96	.059	0.30
affect	0.17	0.24	0.72	.479	0.11
respect	0.40	0.23	1.74	.091	0.25
network	0.52	0.26	2.03	.051	0.30

Note. $F_{(5, 31)} = 33.88$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .82$

Case 95 Observed Judgment Policy of School Building Leader Effectiveness

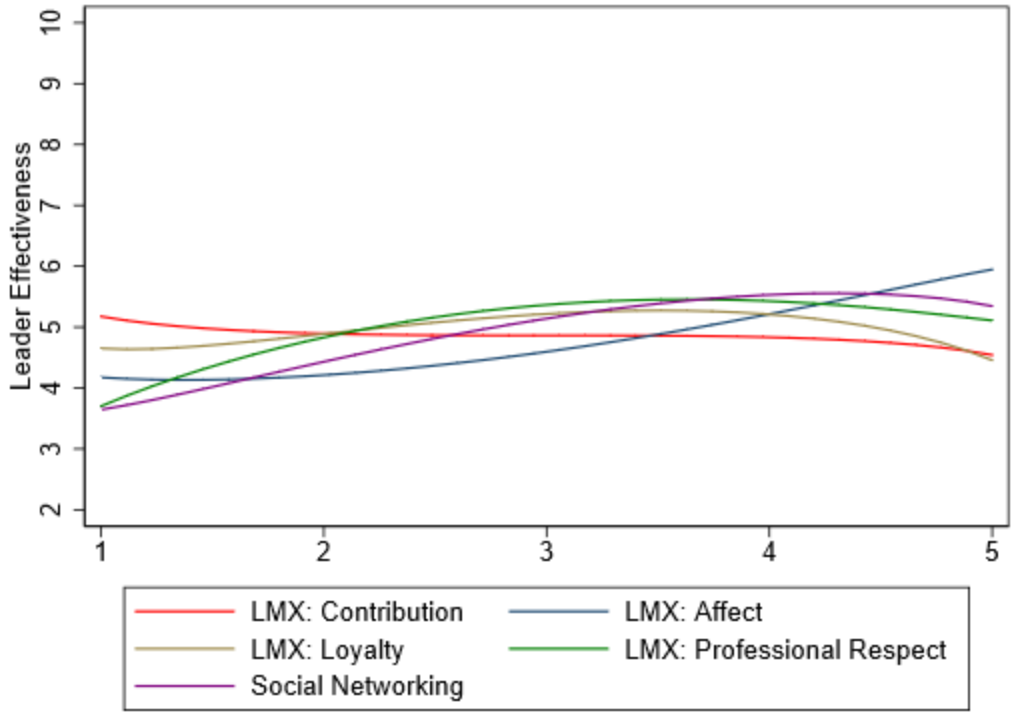


Figure A95.1. Judgment policy by leadership quality for Case 95 based on observed leader-effectiveness scores.

Case 95 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

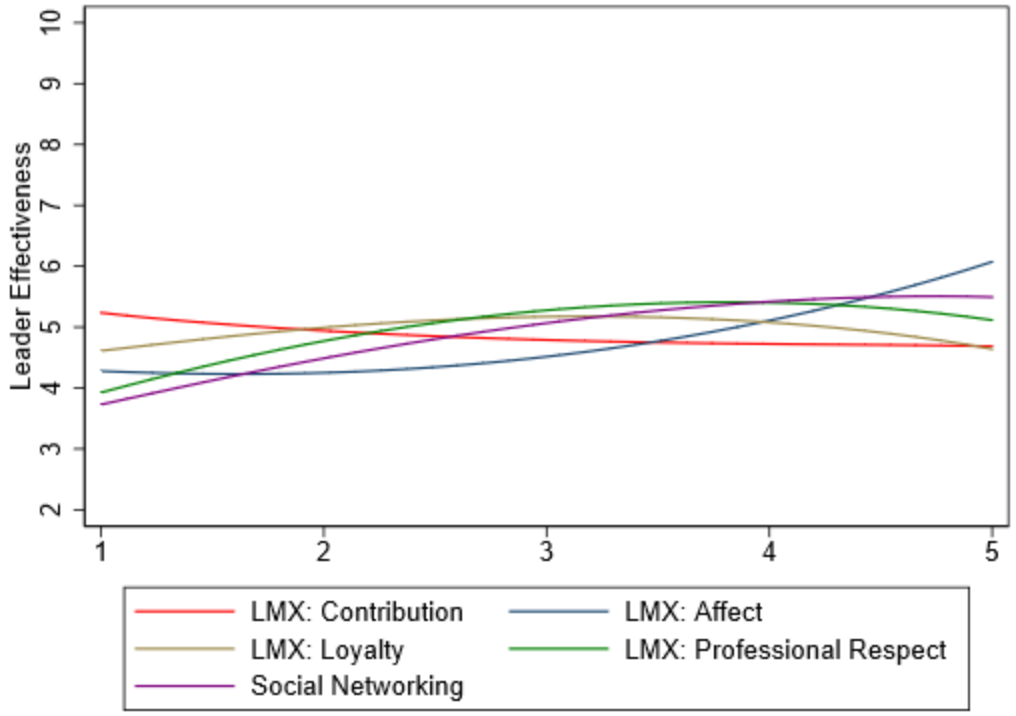


Figure A95.2. Judgment policy by leadership quality for Case 95 based on predicted leader-effectiveness scores from quadric regression.

Table A96.1

Case 96 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.58	0.94	-0.62	.542	-2.51	1.35
contribution2	0.13	0.16	0.84	.411	-0.19	0.45
loyal	-1.53	1.00	-1.53	.139	-3.60	0.53
loyal2	0.27	0.16	1.63	.116	-0.07	0.60
affect	1.84	0.93	1.97	.059	-0.08	3.75
affect2	-0.28	0.16	-1.80	.084	-0.60	0.04
respect	1.47	0.91	1.62	.117	-0.39	3.34
respect2	-0.12	0.15	-0.79	.436	-0.43	0.19
network	1.16	0.97	1.19	.246	-0.85	3.16
network2	-0.16	0.16	-1.02	.316	-0.49	0.16

Note. $F_{(10, 26)} = 36.26$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A96.2

Case 96 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.25	0.18	1.39	.176	0.18
loyal	0.14	0.19	0.75	.462	0.10
affect	0.24	0.18	1.33	.194	0.17
respect	0.84	0.18	4.73	.000	0.60
network	0.25	0.20	1.25	.221	0.16

Note. $F_{(5, 31)} = 66.74$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .91$

Case 96 Observed Judgment Policy of School Building Leader Effectiveness

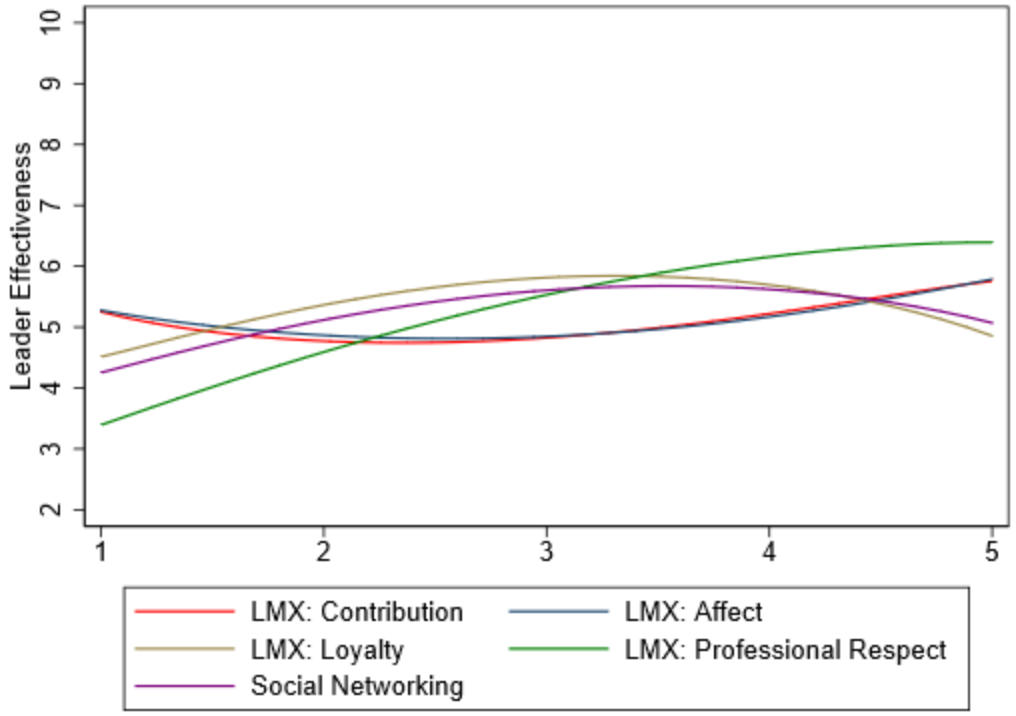


Figure A96.1. Judgment policy by leadership quality for Case 96 based on observed leader-effectiveness scores.

Case 96 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

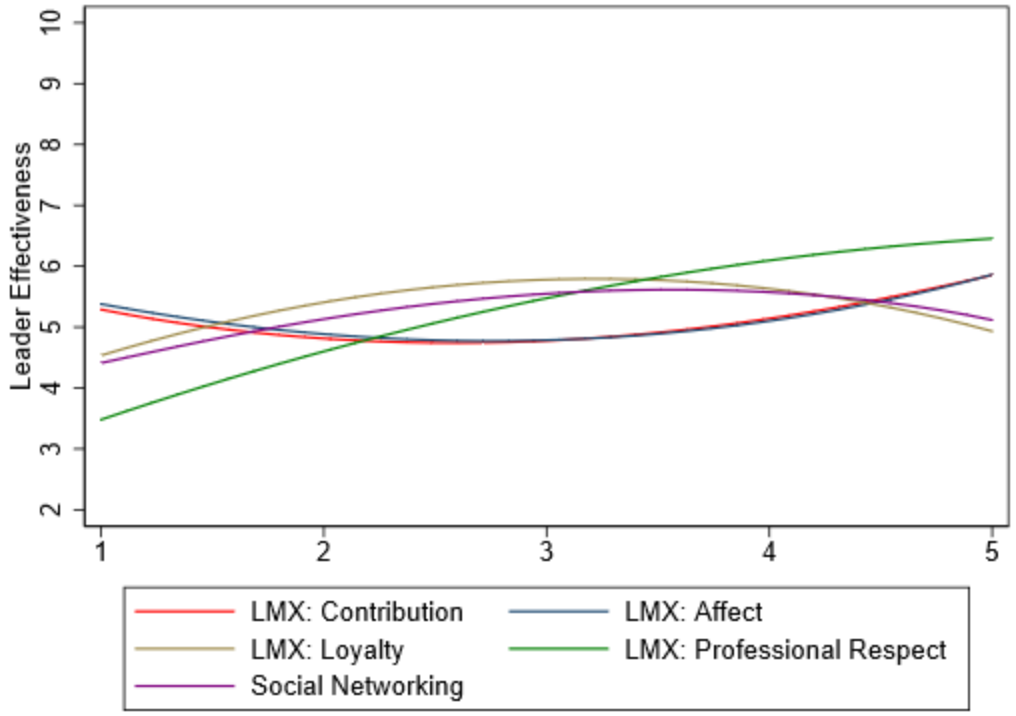


Figure A96.2. Judgment policy by leadership quality for Case 96 based on predicted leader-effectiveness scores from quadric regression.

Table A97.1

Case 97 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.58	1.34	-1.18	.250	-4.34	1.18
contribution2	0.29	0.22	1.30	.204	-0.17	0.75
loyal	-1.62	1.44	-1.13	.268	-4.58	1.33
loyal2	0.31	0.23	1.31	.202	-0.17	0.78
affect	1.29	1.33	0.97	.341	-1.45	4.03
affect2	-0.20	0.22	-0.91	.371	-0.66	0.26
respect	1.07	1.30	0.83	.416	-1.59	3.74
respect2	-0.04	0.21	-0.20	.843	-0.48	0.40
network	2.53	1.39	1.82	.081	-0.33	5.39
network2	-0.30	0.23	-1.33	.197	-0.76	0.17

Note. $F_{(10, 26)} = 22.11$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .85$

Table A97.2

Case 97 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.15	0.25	0.62	.542	0.08
loyal	0.22	0.27	0.83	.413	0.11
affect	0.05	0.26	0.21	.837	0.03
respect	0.81	0.25	3.28	.003	0.42
network	0.67	0.27	2.43	.021	0.32

Note. $F_{(5, 31)} = 42.99$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 97 Observed Judgment Policy of School Building Leader Effectiveness

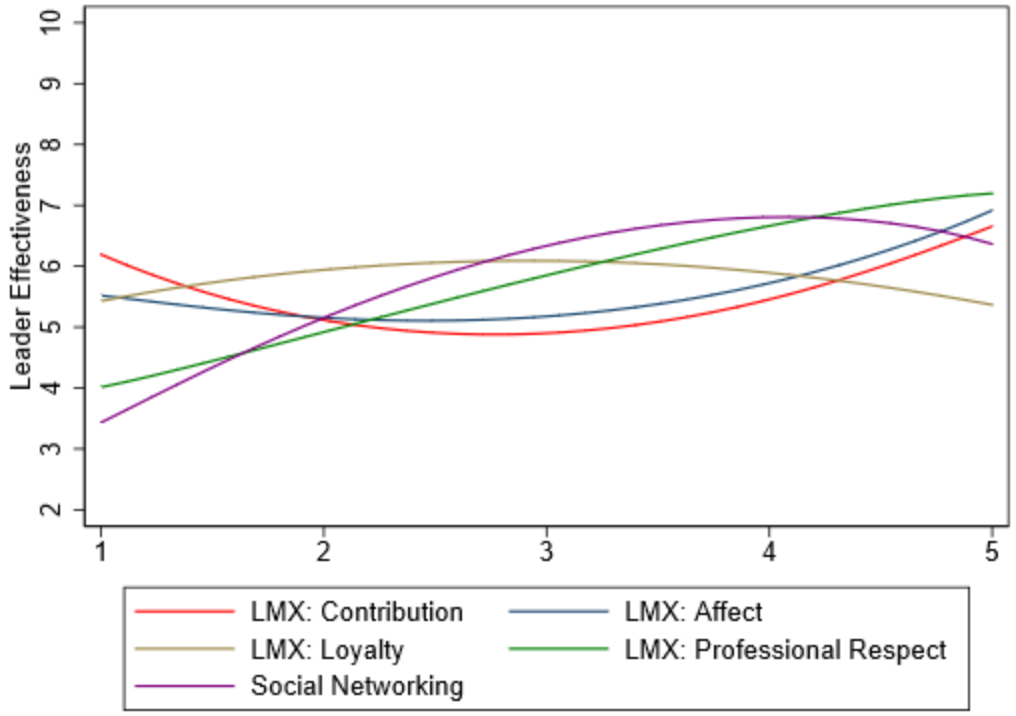


Figure A97.1. Judgment policy by leadership quality for Case 97 based on observed leader-effectiveness scores.

Case 97 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

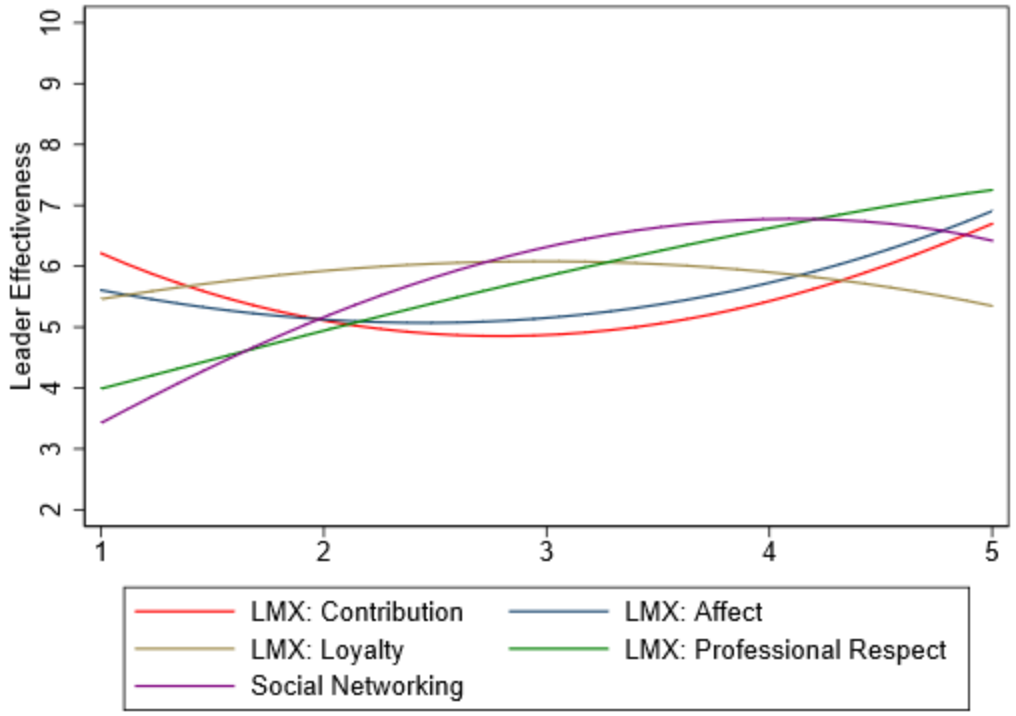


Figure A97.2. Judgment policy by leadership quality for Case 97 based on predicted leader-effectiveness scores from quadric regression.

Table A98.1

Case 98 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.20	1.31	0.92	.366	-1.48	3.89
contribution2	-0.15	0.22	-0.68	.503	-0.60	0.30
loyal	-3.21	1.40	-2.30	.030	-6.08	-0.34
loyal2	0.52	0.23	2.31	.029	0.06	0.99
affect	-0.17	1.29	-0.13	.898	-2.83	2.49
affect2	0.08	0.22	0.35	.732	-0.37	0.52
respect	1.99	1.26	1.58	.126	-0.60	4.58
respect2	-0.12	0.21	-0.58	.565	-0.55	0.31
network	1.83	1.35	1.35	.188	-0.95	4.61
network2	-0.24	0.22	-1.11	.277	-0.70	0.21

Note. $F_{(10, 26)} = 25.10$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A98.2

Case 98 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.32	0.25	1.28	.211	0.16
loyal	-0.04	0.27	-0.17	.868	-0.02
affect	0.27	0.25	1.07	.292	0.14
respect	1.14	0.24	4.68	.000	0.57
network	0.29	0.27	1.06	.297	0.13

Note. $F_{(5, 31)} = 46.82$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 98 Observed Judgment Policy of School Building Leader Effectiveness

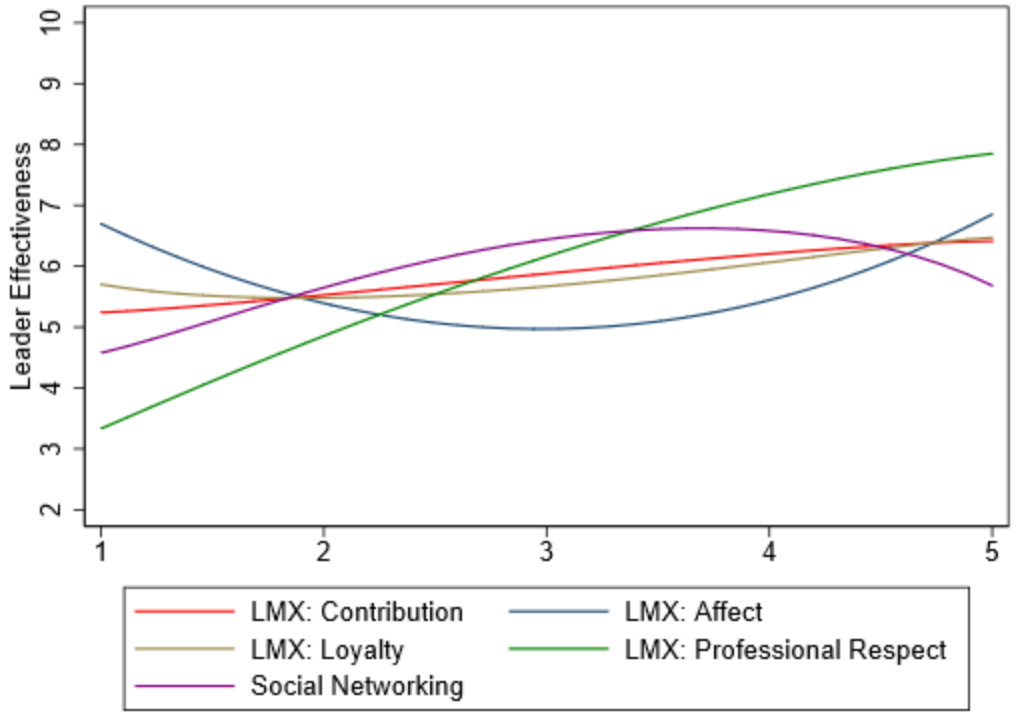


Figure A98.1. Judgment policy by leadership quality for Case 98 based on observed leader-effectiveness scores.

Case 98 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

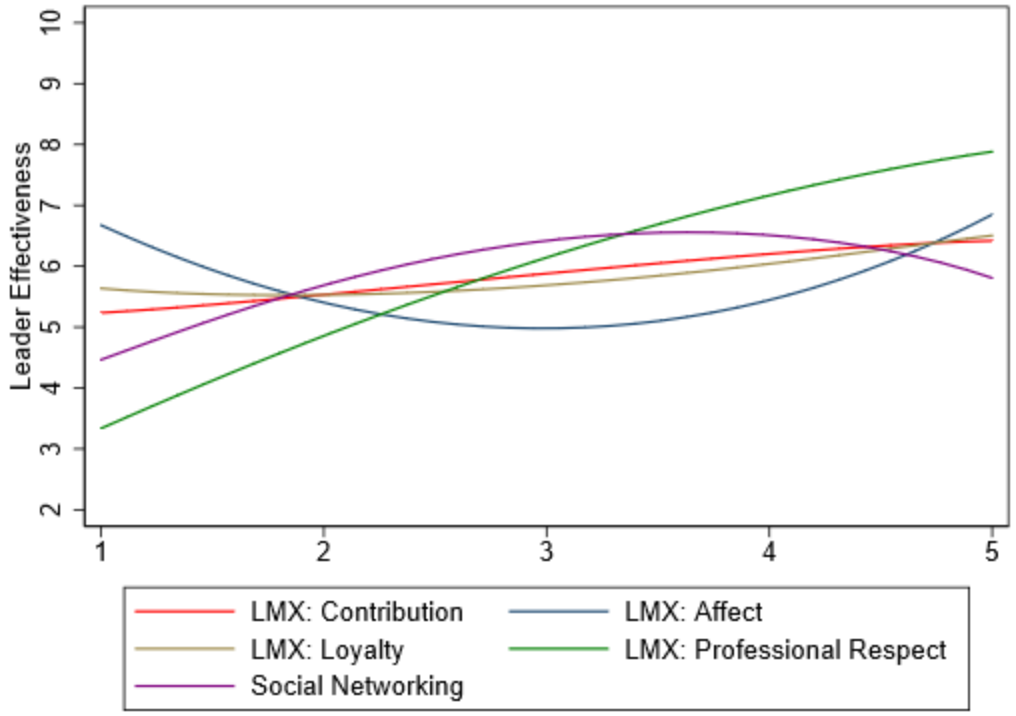


Figure A98.2. Judgment policy by leadership quality for Case 98 based on predicted leader-effectiveness scores from quadric regression.

Table A99.1

Case 99 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.00	0.96	1.03	.311	-0.99	2.98
contrib2	-0.14	0.16	-0.88	.390	-0.47	0.19
loyal	-0.76	1.03	-0.74	.468	-2.88	1.36
loyal2	0.13	0.17	0.77	.447	-0.21	0.47
affect	1.54	0.96	1.62	.118	-0.42	3.51
affect2	-0.25	0.16	-1.57	.129	-0.58	0.08
respect	1.57	0.93	1.68	.105	-0.35	3.48
respect2	-0.11	0.15	-0.69	.495	-0.42	0.21
network	-0.24	1.00	-0.24	.812	-2.29	1.81
network2	0.05	0.16	0.32	.755	-0.28	0.39

Note. $F_{(10, 26)} = 41.37$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A99.2

Case 99 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.25	0.18	1.35	.188	0.19
loyal	0.14	0.20	0.72	.480	0.10
affect	0.21	0.19	1.14	.265	0.16
respect	1.05	0.18	5.90	.000	0.79
network	0.23	0.20	1.17	.250	0.16

Note. $F_{(5, 31)} = 79.45$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 99 Observed Judgment Policy of School Building Leader Effectiveness

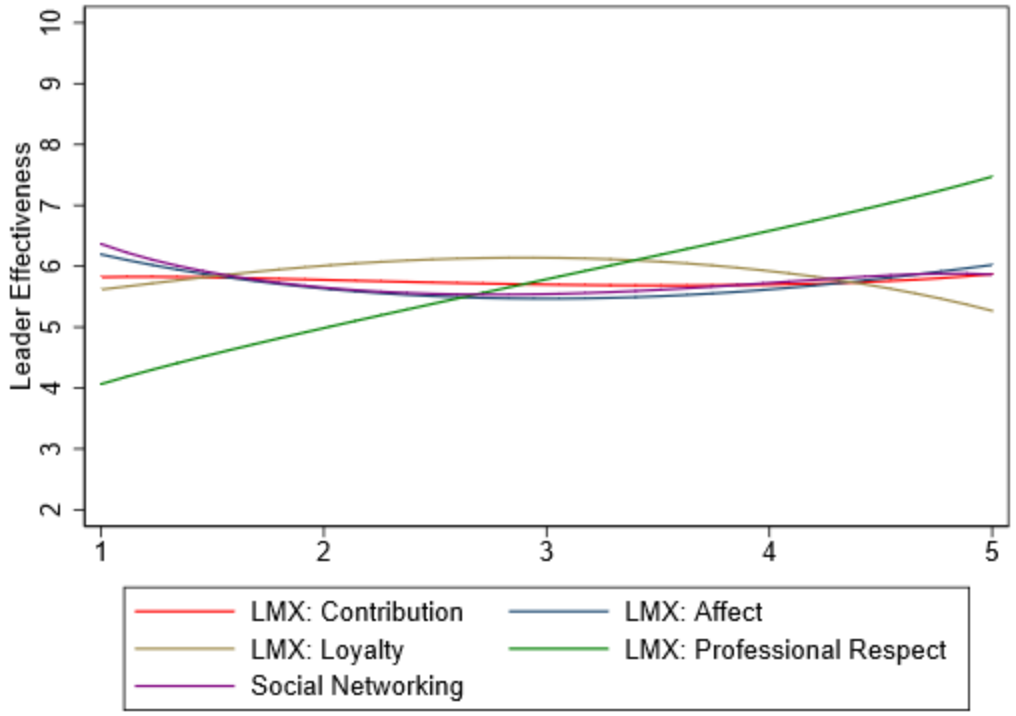


Figure A99.1. Judgment policy by leadership quality for Case 99 based on observed leader-effectiveness scores.

Case 99 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

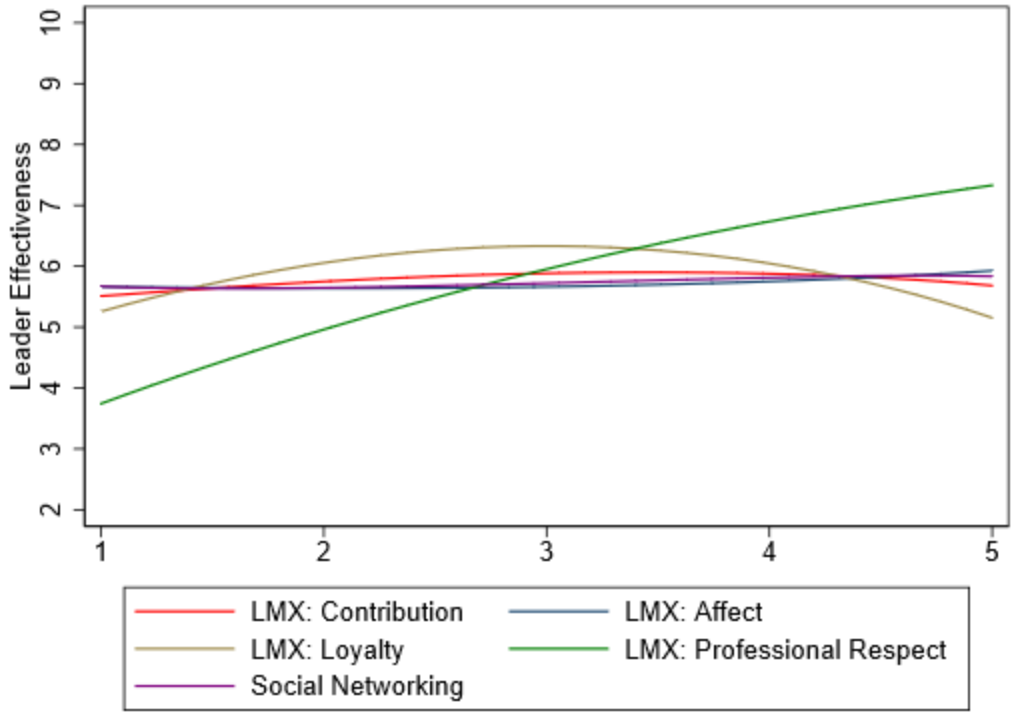


Figure A99.2. Judgment policy by leadership quality for Case 99 based on predicted leader-effectiveness scores from quadric regression.

Table A100.1

Case 100 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.63	0.98	1.67	.107	-0.38	3.64
contribution2	-0.27	0.16	-1.64	.112	-0.60	0.07
loyal	0.85	1.05	0.82	.421	-1.29	3.00
loyal2	-0.09	0.17	-0.56	.583	-0.44	0.25
affect	1.15	0.97	1.19	.244	-0.84	3.15
affect2	-0.18	0.16	-1.11	.276	-0.52	0.15
respect	-0.21	0.94	-0.22	.828	-2.15	1.73
respect2	0.08	0.16	0.49	.629	-0.24	0.40
network	-0.49	1.01	-0.49	.631	-2.57	1.59
network2	0.18	0.16	1.10	.280	-0.16	0.52

Note. $F_{(10, 26)} = 38.02$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A100.2

Case 100 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.19	0.57	.571	0.09
loyal	0.37	0.20	1.81	.081	0.28
affect	0.22	0.19	1.13	.265	0.17
respect	0.37	0.19	2.01	.053	0.29
network	0.77	0.21	3.70	.001	0.55

Note. $F_{(5, 31)} = 68.89$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 100 Observed Judgment Policy of School Building Leader Effectiveness

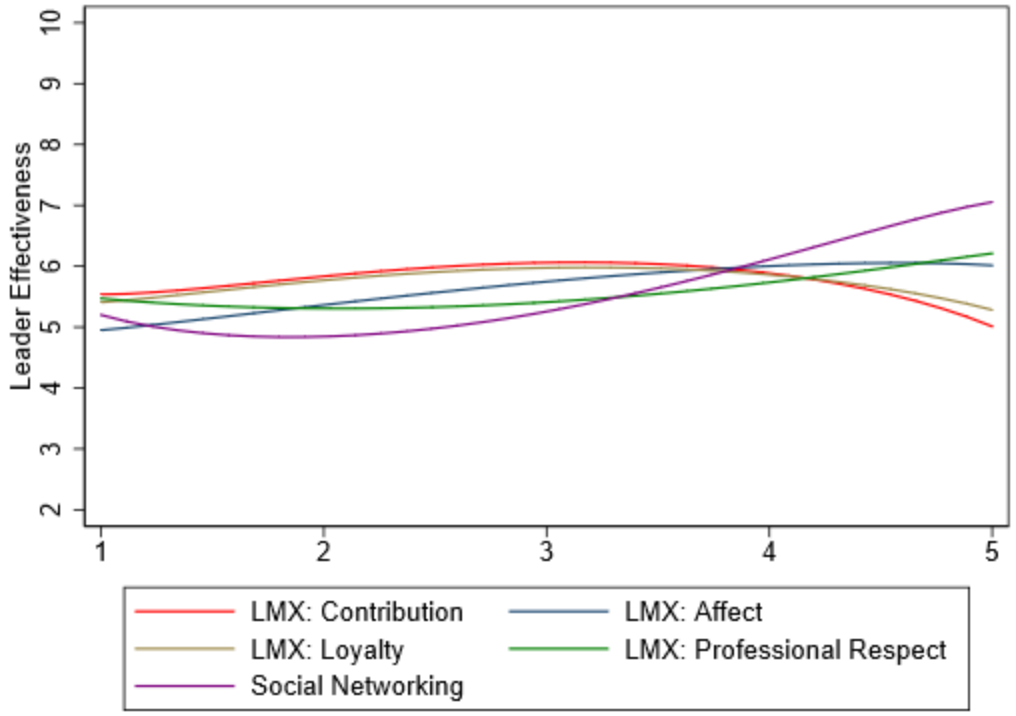


Figure A100.1. Judgment policy by leadership quality for Case 100 based on observed leader-effectiveness scores.

Case 100 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

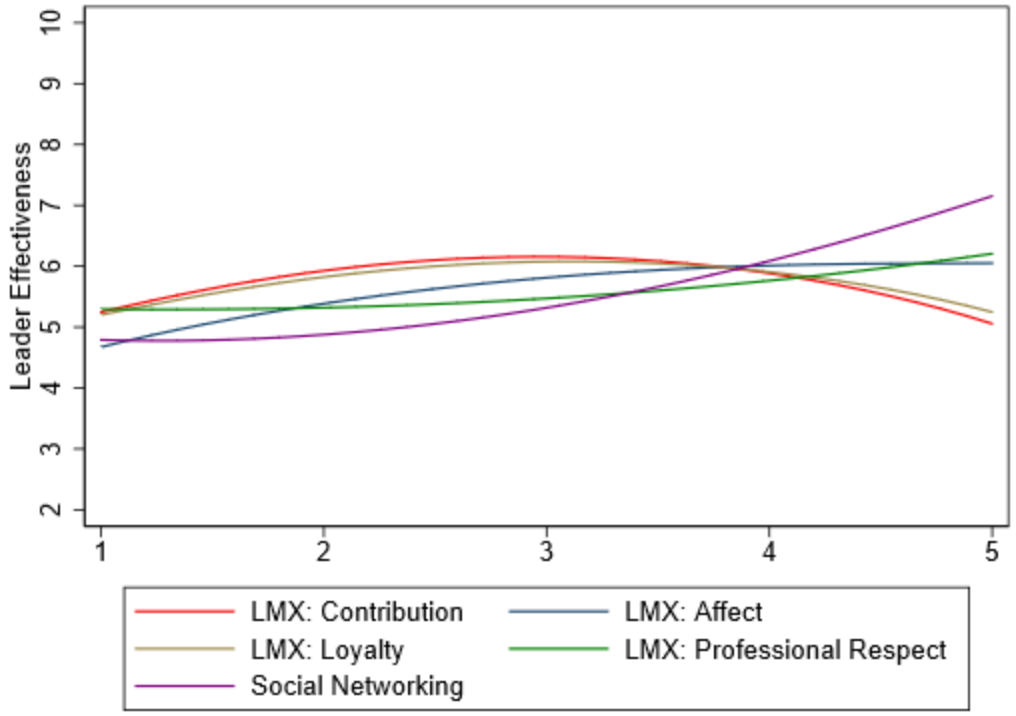


Figure A100.2. Judgment policy by leadership quality for Case 100 based on predicted leader-effectiveness scores from quadric regression.

Table A101.1

Case 101 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.99	1.29	-0.76	.453	-3.65	1.67
contribution2	0.16	0.22	0.74	.464	-0.28	0.61
loyal	-1.95	1.38	-1.41	.171	-4.79	0.90
loyal2	0.34	0.22	1.51	.144	-0.12	0.80
affect	1.16	1.28	0.91	.373	-1.47	3.80
affect2	-0.19	0.22	-0.86	.396	-0.63	0.26
respect	3.87	1.25	3.10	.005	1.31	6.44
respect2	-0.46	0.21	-2.21	.036	-0.88	-0.03
network	0.62	1.34	0.46	.649	-2.14	3.37
network2	-0.04	0.22	-0.17	.868	-0.48	0.41

Note. $F_{(10, 26)} = 27.54$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A101.2

Case 101 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.01	0.25	0.04	.967	0.01
loyal	0.20	0.27	0.76	.454	0.10
affect	0.16	0.26	0.62	.543	0.08
respect	1.18	0.25	4.79	.000	0.60
network	0.48	0.27	1.75	.089	0.22

Note. $F_{(5, 31)} = 49.44$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Case 101 Observed Judgment Policy of School Building Leader Effectiveness

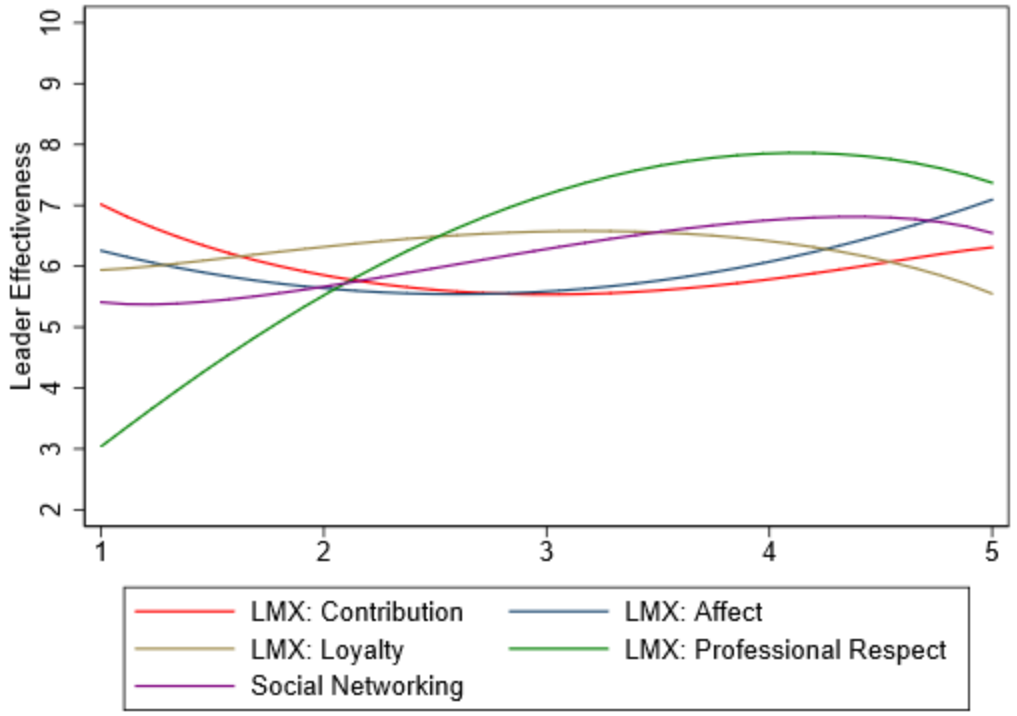


Figure A101.1. Judgment policy by leadership quality for Case 101 based on observed leader-effectiveness scores.

Case 101 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

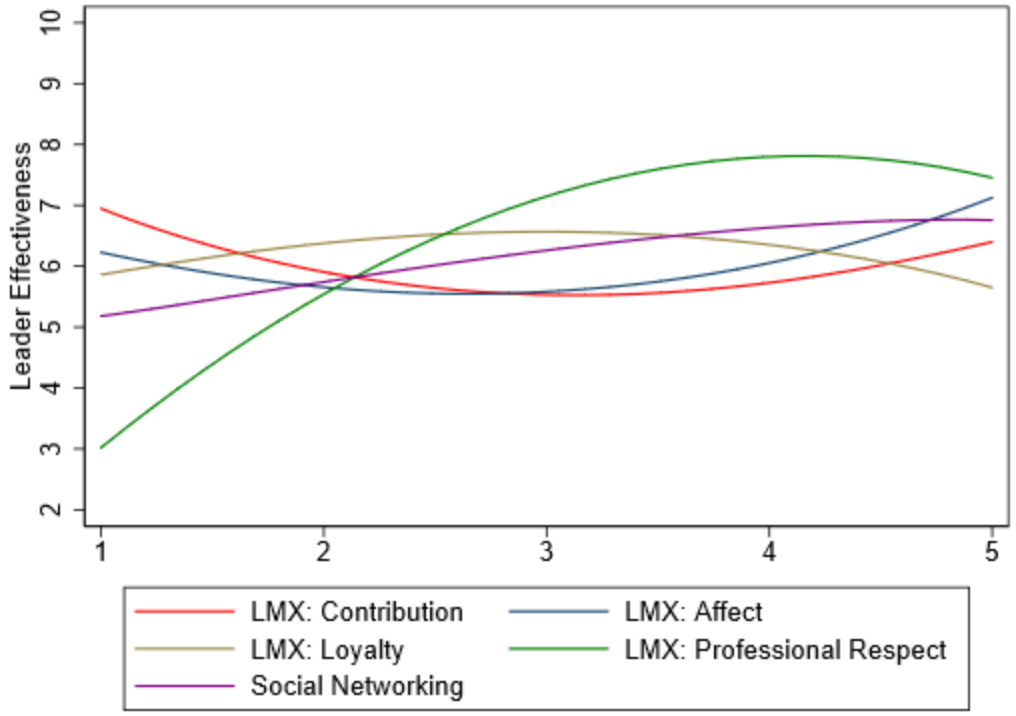


Figure A101.2. Judgment policy by leadership quality for Case 101 based on predicted leader-effectiveness scores from quadric regression.

Table A102.1

Case 102 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.35	1.35	0.26	.799	-2.43	3.13
contribution2	-0.07	0.23	-0.29	.772	-0.53	0.40
loyal	-2.79	1.44	-1.93	.065	-5.76	0.18
loyal2	0.60	0.23	2.57	.016	0.12	1.08
affect	1.49	1.34	1.12	.275	-1.26	4.25
affect2	-0.26	0.23	-1.14	.264	-0.72	0.21
respect	0.46	1.30	0.35	.729	-2.22	3.14
respect2	0.02	0.22	0.11	.910	-0.42	0.47
network	2.46	1.40	1.76	.090	-0.42	5.34
network2	-0.29	0.23	-1.28	.213	-0.76	0.18

Note. $F_{(10, 26)} = 25.77$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A102.2

Case 102 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.04	0.26	-0.16	.873	-0.02
loyal	0.87	0.28	3.09	.004	0.41
affect	-0.01	0.27	-0.05	.958	-0.01
respect	0.54	0.26	2.12	.042	0.27
network	0.68	0.29	2.38	.024	0.31

Note. $F_{(5, 31)} = 46.37$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 102 Observed Judgment Policy of School Building Leader Effectiveness

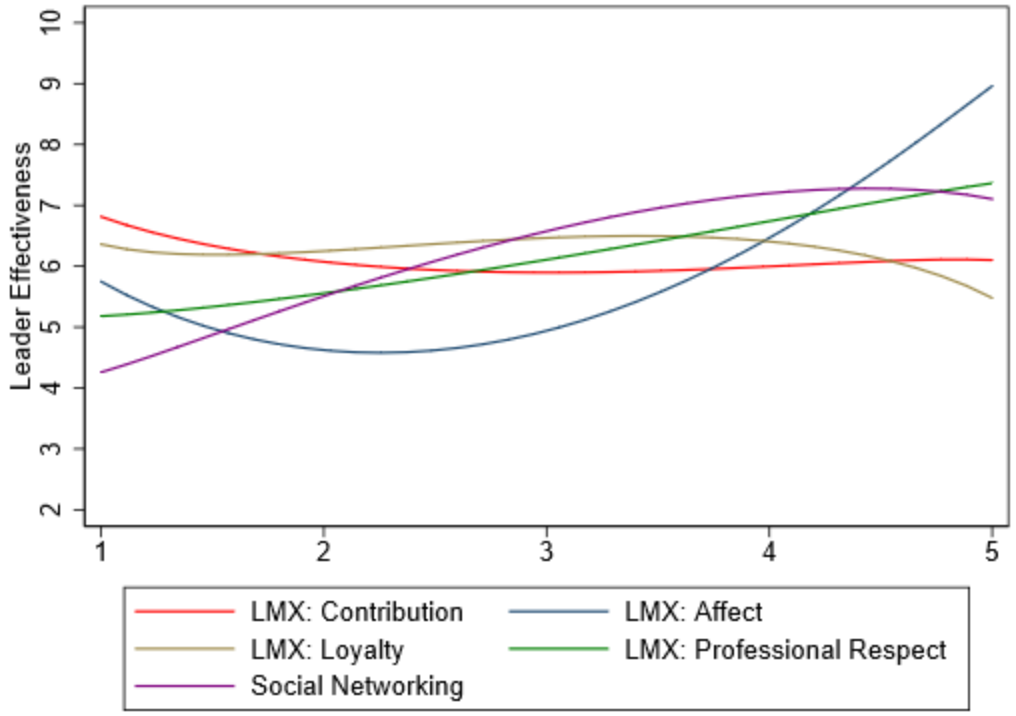


Figure A102.1. Judgment policy by leadership quality for Case 102 based on observed leader-effectiveness scores.

Case 102 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

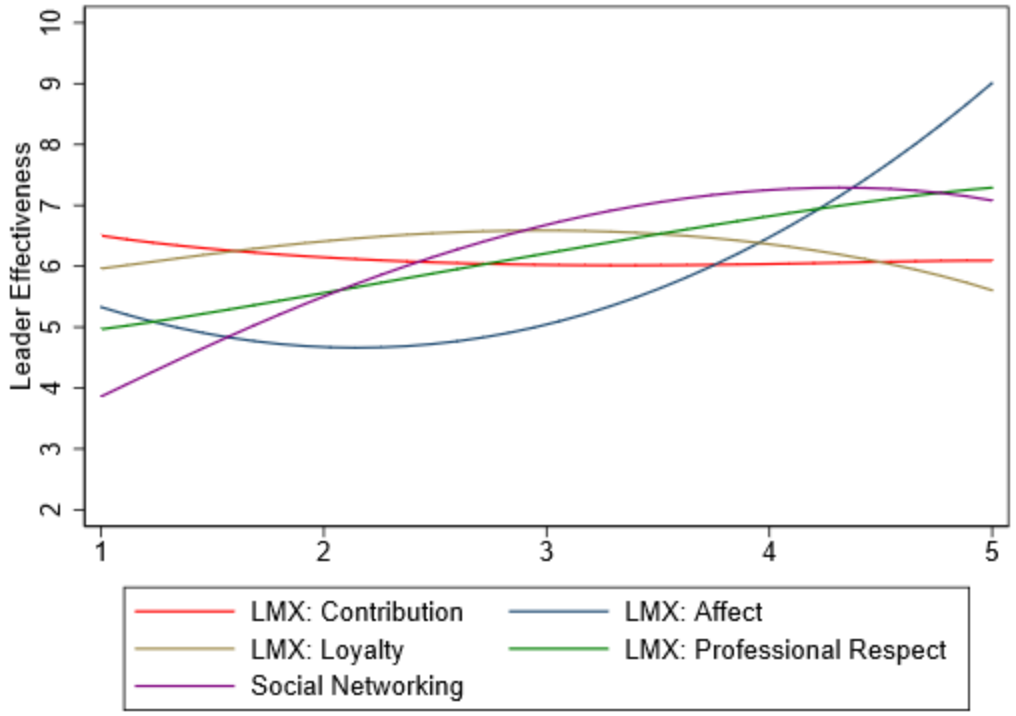


Figure A102.2. Judgment policy by leadership quality for Case 102 based on predicted leader-effectiveness scores from quadric regression.

Table A103.1

Case 103 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.82	1.18	-1.54	.136	-4.24	0.61
contribution2	0.36	0.20	1.81	.081	-0.05	0.76
loyal	-0.37	1.26	-0.29	.774	-2.96	2.23
loyal2	0.10	0.20	0.50	.621	-0.32	0.52
affect	3.13	1.17	2.67	.013	0.72	5.53
affect2	-0.57	0.20	-2.88	.008	-0.97	-0.16
respect	2.13	1.14	1.87	.072	-0.21	4.48
respect2	-0.27	0.19	-1.46	.157	-0.66	0.11
network	0.62	1.22	0.51	.617	-1.89	3.13
network2	-0.11	0.20	-0.56	.581	-0.52	0.30

Note. $F_{(10, 26)} = 27.89$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .88$

Table A103.2

Case 103 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.45	0.25	1.79	.084	0.28
loyal	0.45	0.27	1.66	.108	0.27
affect	-0.02	0.26	-0.08	.939	-0.01
respect	0.78	0.25	3.12	.004	0.48
network	0.18	0.28	0.66	.513	0.10

Note. $F_{(5, 31)} = 39.68$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .84$

Case 103 Observed Judgment Policy of School Building Leader Effectiveness

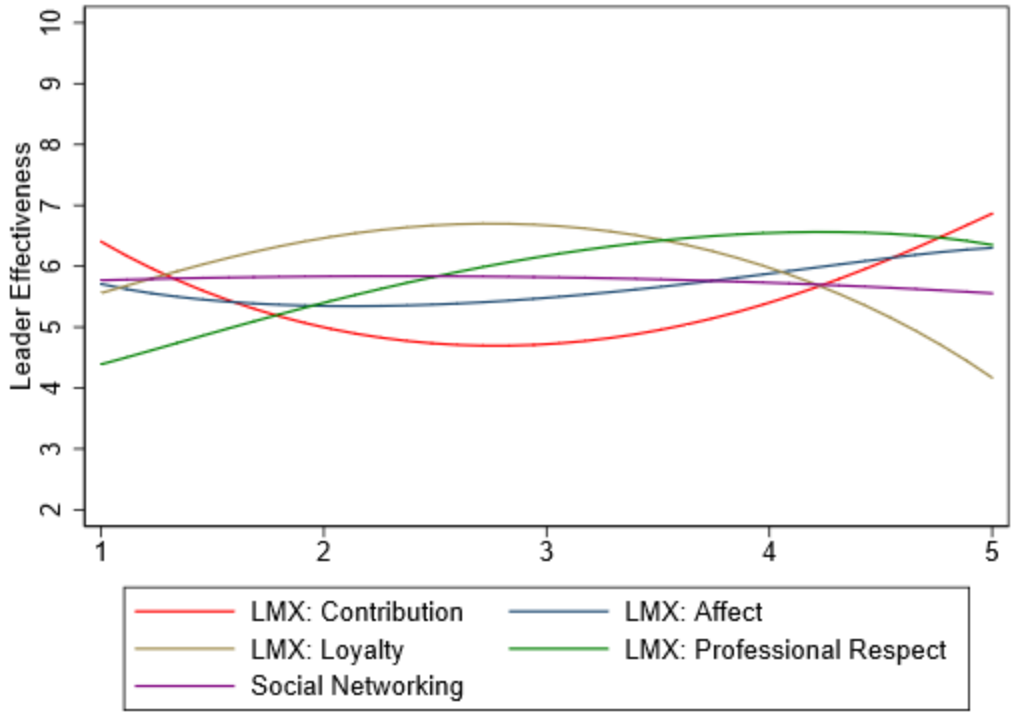


Figure A103.1. Judgment policy by leadership quality for Case 103 based on observed leader-effectiveness scores.

Case 103 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

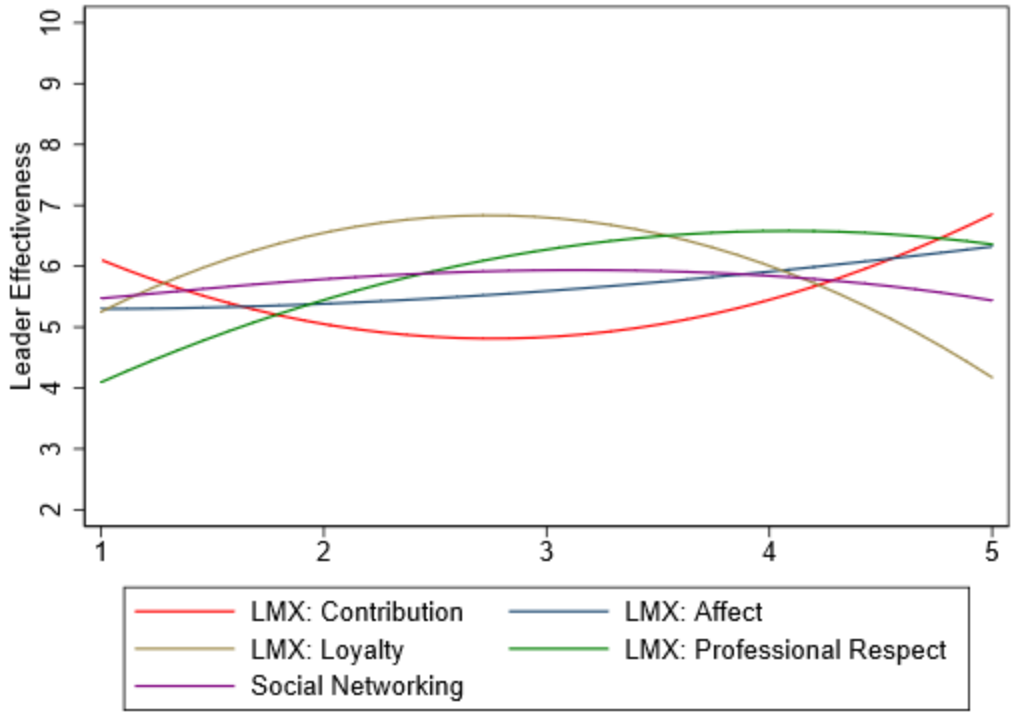


Figure A103.2. Judgment policy by leadership quality for Case 103 based on predicted leader-effectiveness scores from quadric regression.

Table A104.1

Case 104 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.31	1.02	0.31	.762	-1.78	2.40
contribution2	-0.02	0.17	-0.14	.890	-0.37	0.33
loyal	-0.34	1.09	-0.31	.760	-2.57	1.90
loyal2	0.12	0.18	0.68	.500	-0.24	0.48
affect	1.59	1.01	1.58	.127	-0.48	3.66
affect2	-0.27	0.17	-1.59	.125	-0.62	0.08
respect	0.91	0.98	0.93	.362	-1.11	2.93
respect2	-0.10	0.16	-0.62	.544	-0.43	0.23
network	0.56	1.05	0.53	.599	-1.60	2.73
network2	-0.07	0.17	-0.43	.670	-0.43	0.28

Note. $F_{(10, 26)} = 31.05$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A104.2

Case 104 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.28	0.19	1.49	.145	0.23
loyal	0.53	0.20	2.60	.014	0.42
affect	0.16	0.19	0.82	.418	0.13
respect	0.48	0.19	2.57	.015	0.39
network	0.28	0.21	1.34	.191	0.21

Note. $F_{(5, 31)} = 60.81$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 104 Observed Judgment Policy of School Building Leader Effectiveness

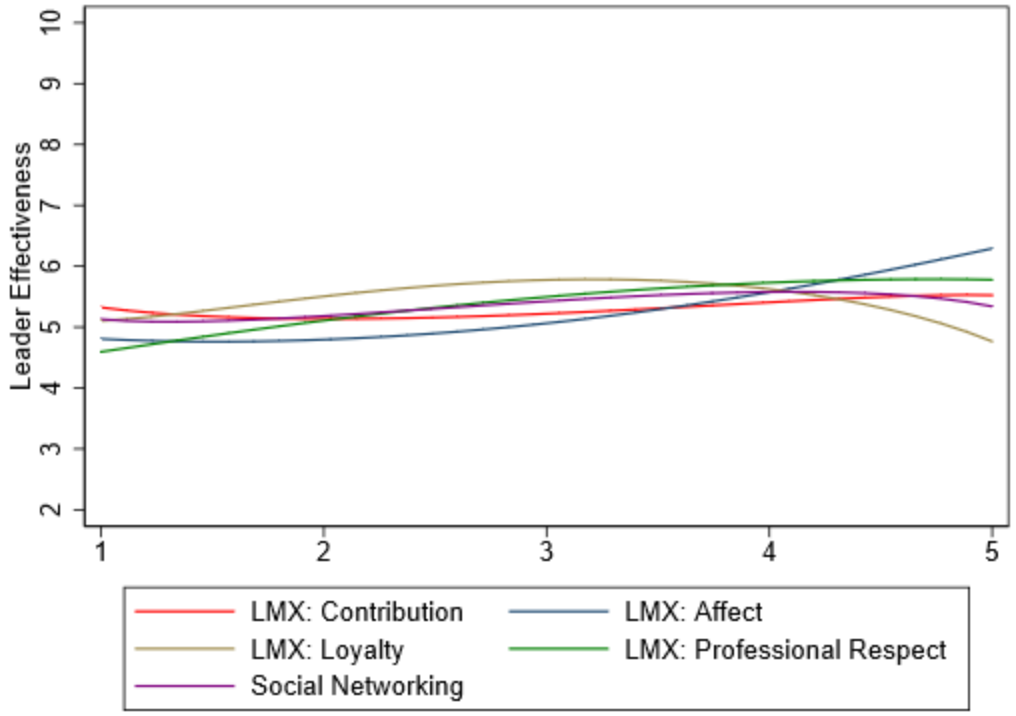


Figure A104.1. Judgment policy by leadership quality for Case 104 based on observed leader-effectiveness scores.

Case 104 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

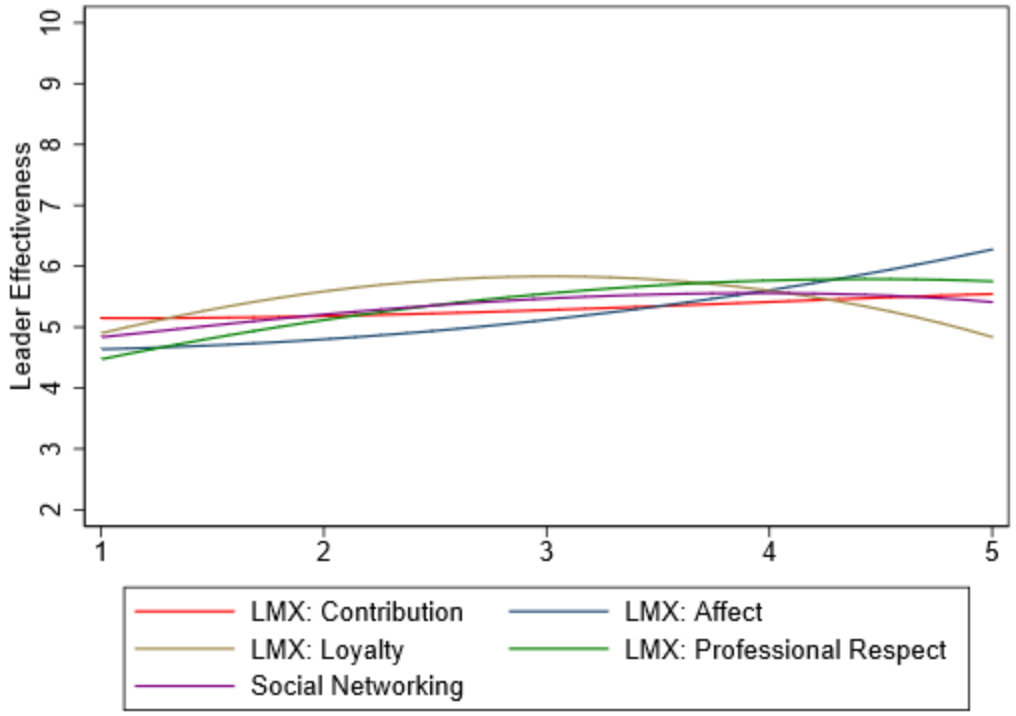


Figure A104.2. Judgment policy by leadership quality for Case 104 based on predicted leader-effectiveness scores from quadric regression.

Table A105.1

Case 105 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.31	0.77	-0.41	.687	-1.89	1.27
contribution2	0.06	0.13	0.50	.619	-0.20	0.33
loyal	-0.07	0.82	-0.08	.936	-1.76	1.62
loyal2	0.05	0.13	0.39	.699	-0.22	0.33
affect	0.05	0.76	0.06	.951	-1.52	1.61
affect2	-0.03	0.13	-0.24	.811	-0.29	0.23
respect	0.74	0.74	1.00	.326	-0.78	2.27
respect2	-0.05	0.12	-0.45	.659	-0.31	0.20
network	1.57	0.80	1.97	.060	-0.07	3.20
network2	-0.16	0.13	-1.23	.230	-0.43	0.11

Note. $F_{(10, 26)} = 42.28$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A105.2

Case 105 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.14	0.99	.328	0.12
loyal	0.31	0.15	2.12	.043	0.26
affect	-0.08	0.14	-0.57	.572	-0.07
respect	0.49	0.13	3.65	.001	0.43
network	0.65	0.15	4.34	.000	0.51

Note. $F_{(5, 31)} = 92.06$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 105 Observed Judgment Policy of School Building Leader Effectiveness

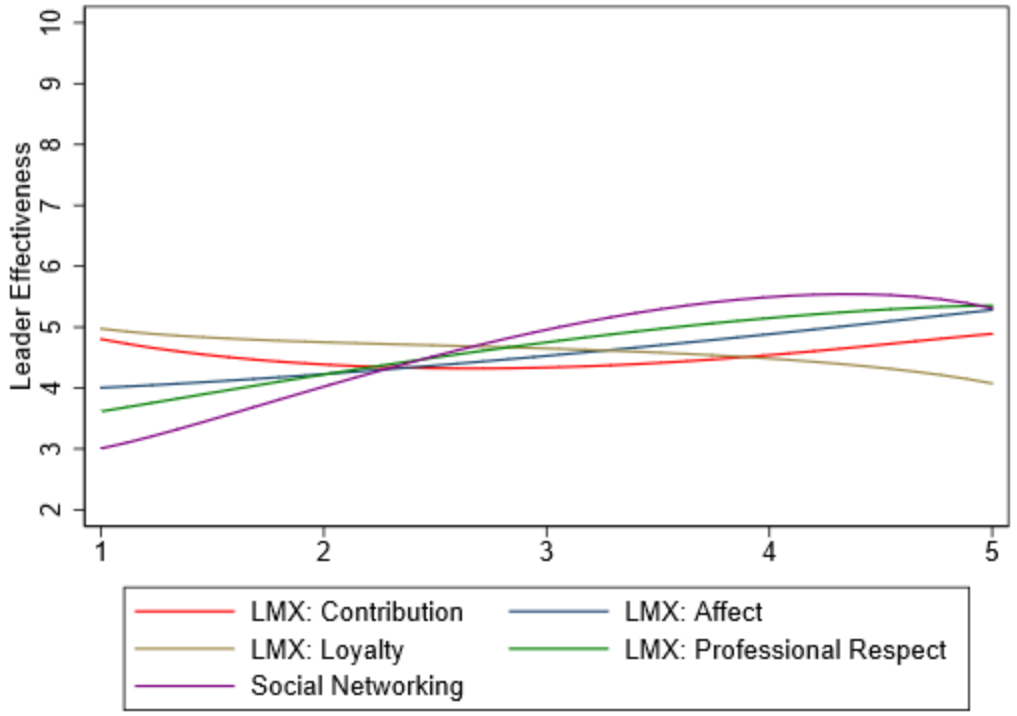


Figure A105.1. Judgment policy by leadership quality for Case 105 based on observed leader-effectiveness scores.

Case 105 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

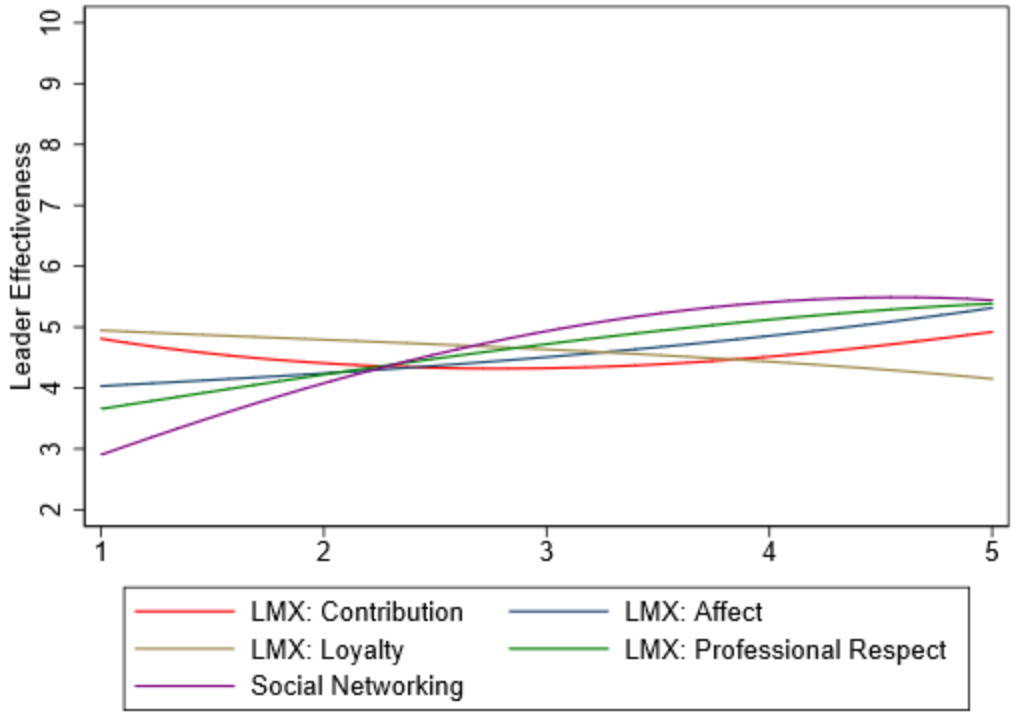


Figure A105.2. Judgment policy by leadership quality for Case 105 based on predicted leader-effectiveness scores from quadric regression.

Table A106.1

Case 106 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.02	0.83	0.03	.977	-1.68	1.73
contribution2	0.04	0.14	0.26	.797	-0.25	0.32
loyal	-1.47	0.88	-1.66	.109	-3.29	0.35
loyal2	0.28	0.14	1.93	.064	-0.02	0.57
affect	1.36	0.82	1.66	.109	-0.32	3.05
affect2	-0.26	0.14	-1.87	.073	-0.54	0.03
respect	0.66	0.80	0.82	.418	-0.99	2.30
respect2	0.05	0.13	0.36	.721	-0.22	0.32
network	2.10	0.86	2.45	.022	0.33	3.86
network2	-0.23	0.14	-1.63	.114	-0.51	0.06

Note. $F_{(10, 26)} = 79.07$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A106.2

Case 106 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.29	0.16	1.79	.083	0.18
loyal	0.27	0.17	1.54	.135	0.16
affect	-0.11	0.16	-0.64	.524	-0.07
respect	1.00	0.16	6.33	.000	0.62
network	0.77	0.18	4.34	.000	0.43

Note. $F_{(5, 31)} = 142.69$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 106 Observed Judgment Policy of School Building Leader Effectiveness

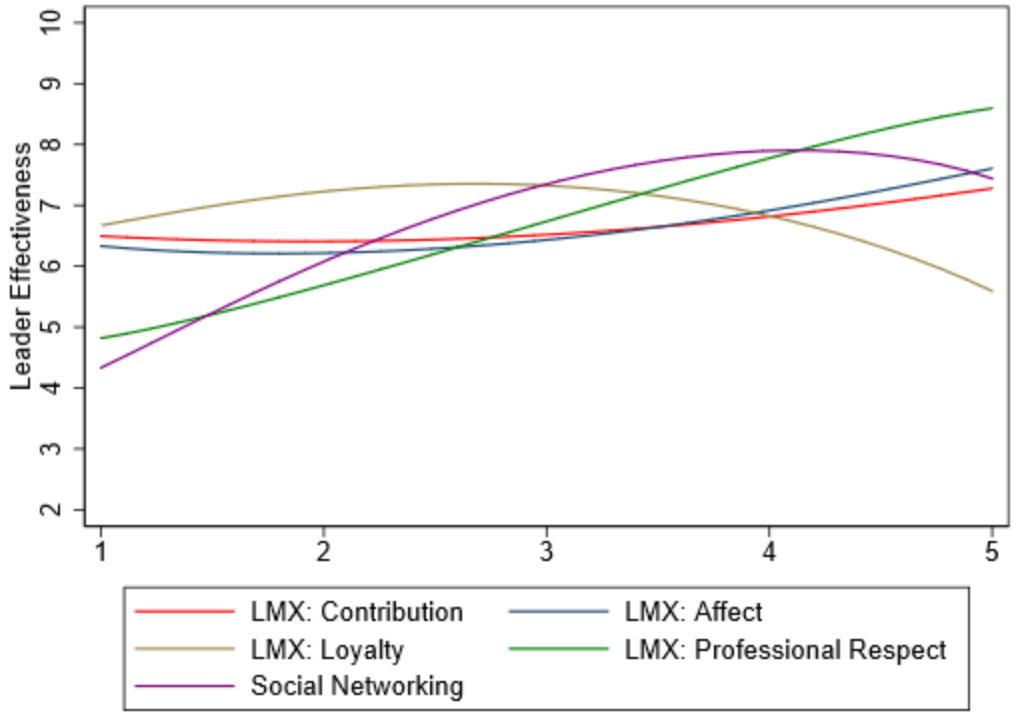


Figure A106.1. Judgment policy by leadership quality for Case 106 based on observed leader-effectiveness scores.

Case 106 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

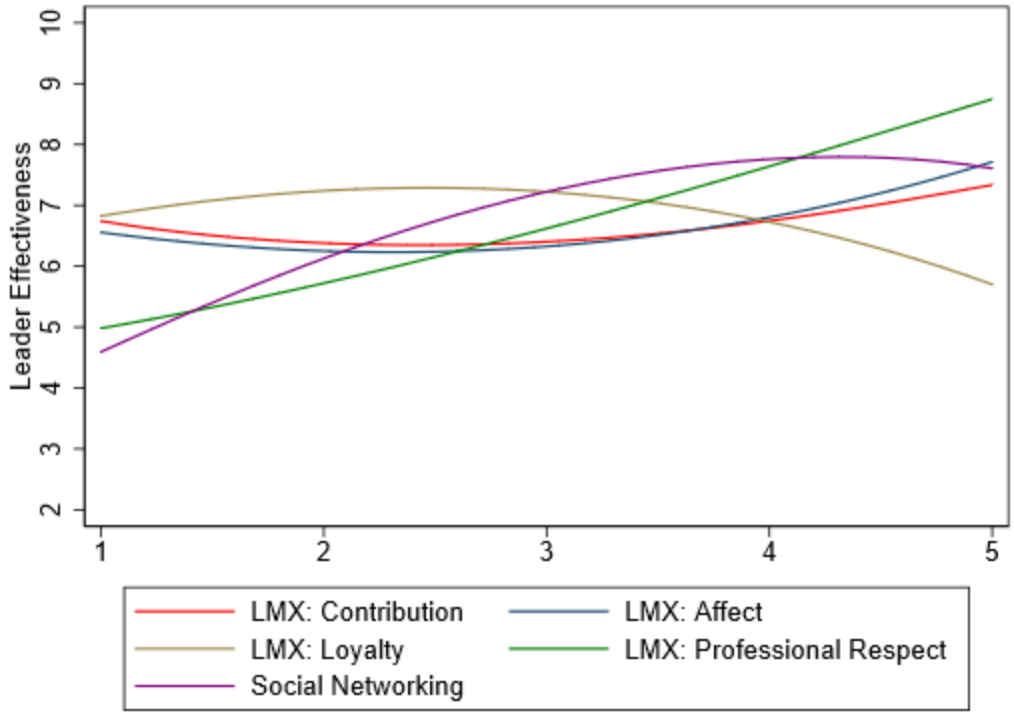


Figure A106.2. Judgment policy by leadership quality for Case 106 based on predicted leader-effectiveness scores from quadric regression.

Table A107.1

Case 107 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.28	0.89	-0.31	.758	-2.10	1.55
contribution2	0.06	0.15	0.41	.689	-0.25	0.37
loyal	-1.04	0.95	-1.09	.286	-2.99	0.92
loyal2	0.16	0.15	1.02	.315	-0.16	0.48
affect	1.58	0.88	1.80	.084	-0.23	3.40
affect2	-0.21	0.15	-1.44	.162	-0.52	0.09
respect	1.60	0.86	1.86	.074	-0.16	3.36
respect2	-0.12	0.14	-0.86	.399	-0.41	0.17
network	0.45	0.92	0.49	.626	-1.44	2.35
network2	-0.04	0.15	-0.30	.768	-0.35	0.26

Note. $F_{(10, 26)} = 39.59$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A107.2

Case 107 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.12	0.16	0.76	.451	0.09
loyal	-0.01	0.17	-0.07	.943	-0.01
affect	0.40	0.17	2.40	.022	0.30
respect	0.94	0.16	5.90	.000	0.70
network	0.26	0.18	1.47	.150	0.18

Note. $F_{(5, 31)} = 81.36$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 107 Observed Judgment Policy of School Building Leader Effectiveness

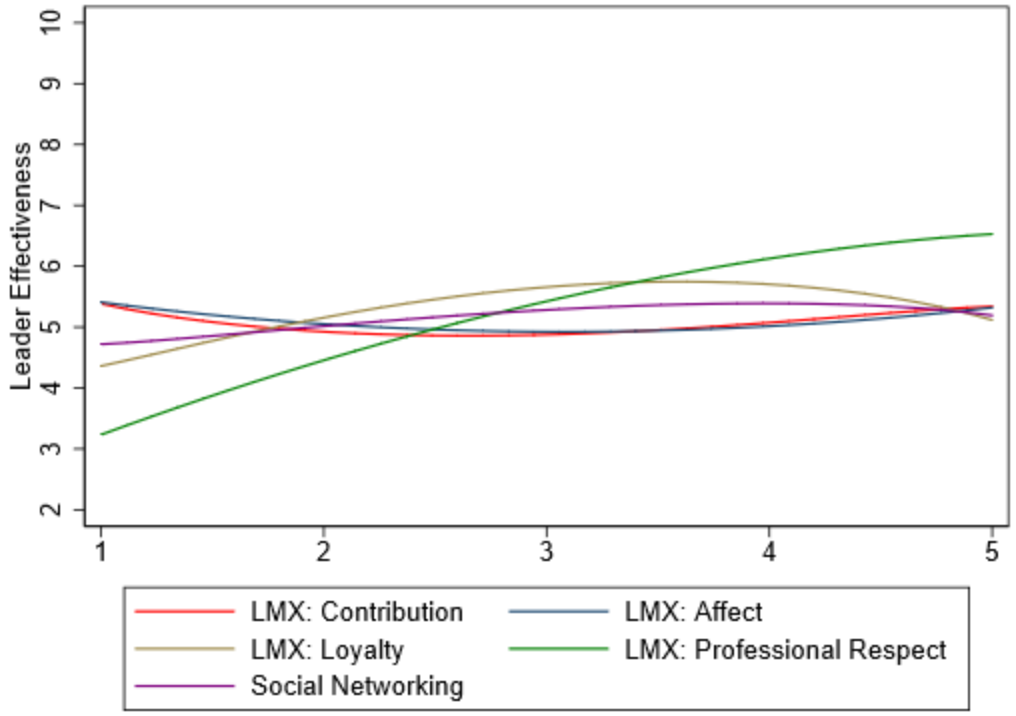


Figure A107.1. Judgment policy by leadership quality for Case 107 based on observed leader-effectiveness scores.

Case 107 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

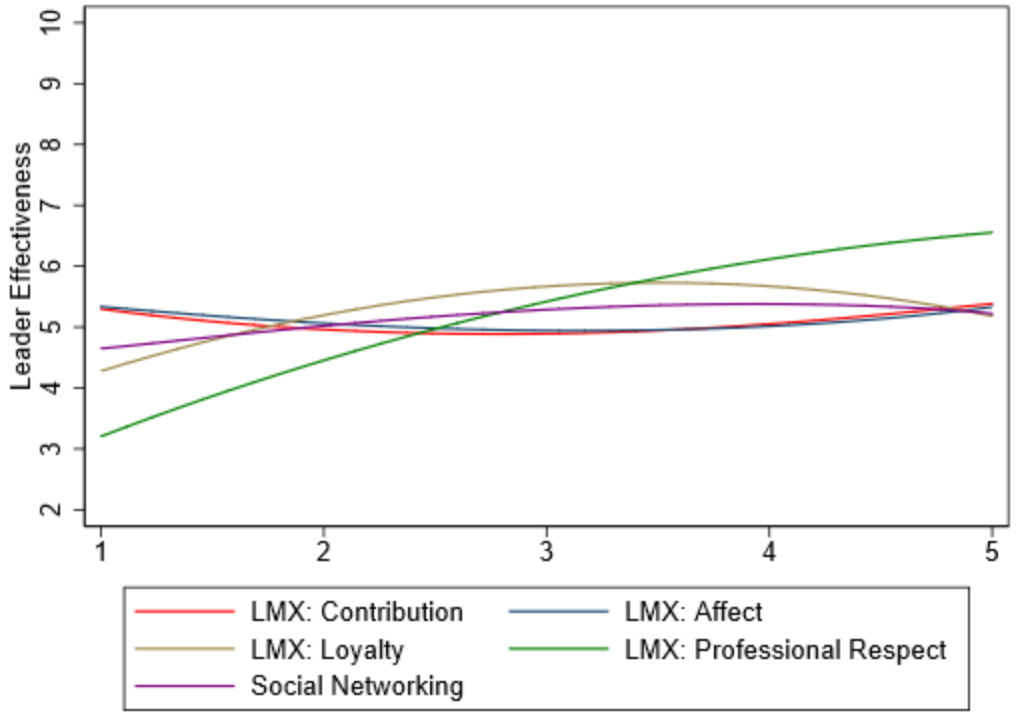


Figure A107.2. Judgment policy by leadership quality for Case 107 based on predicted leader-effectiveness scores from quadric regression.

Table A108.1

Case 108 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.45	1.40	-0.32	.749	-3.34	2.43
contribution2	0.15	0.23	0.62	.539	-0.34	0.63
loyal	-1.03	1.50	-0.69	.496	-4.12	2.05
loyal2	0.21	0.24	0.88	.387	-0.29	0.71
affect	2.04	1.39	1.47	.154	-0.82	4.90
affect2	-0.36	0.23	-1.55	.133	-0.84	0.12
respect	1.59	1.35	1.18	.250	-1.19	4.38
respect2	-0.13	0.22	-0.56	.579	-0.59	0.33
network	0.72	1.45	0.50	.625	-2.27	3.71
network2	-0.08	0.24	-0.34	.734	-0.57	0.40

Note. $F_{(10, 26)} = 23.87$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A108.2

Case 108 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.47	0.26	1.82	.079	0.26
loyal	0.35	0.27	1.26	.215	0.19
affect	-0.01	0.26	-0.04	.966	-0.01
respect	0.94	0.25	3.76	.001	0.52
network	0.33	0.28	1.18	.247	0.17

Note. $F_{(5, 31)} = 49.22$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 108 Observed Judgment Policy of School Building Leader Effectiveness

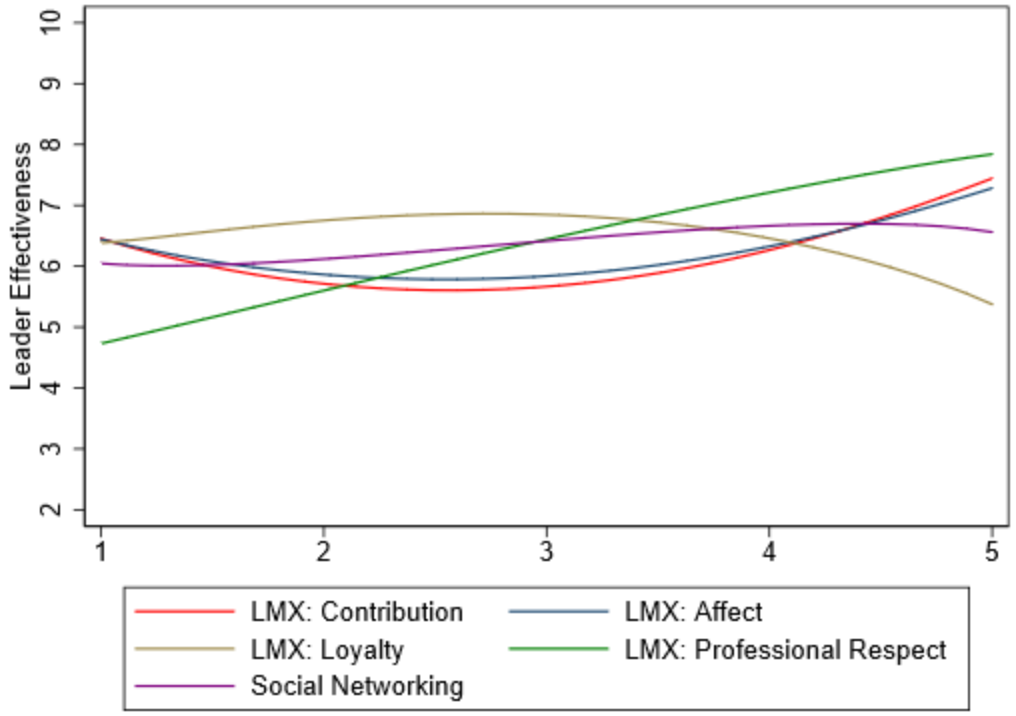


Figure A108.1. Judgment policy by leadership quality for Case 108 based on observed leader-effectiveness scores.

Case 108 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

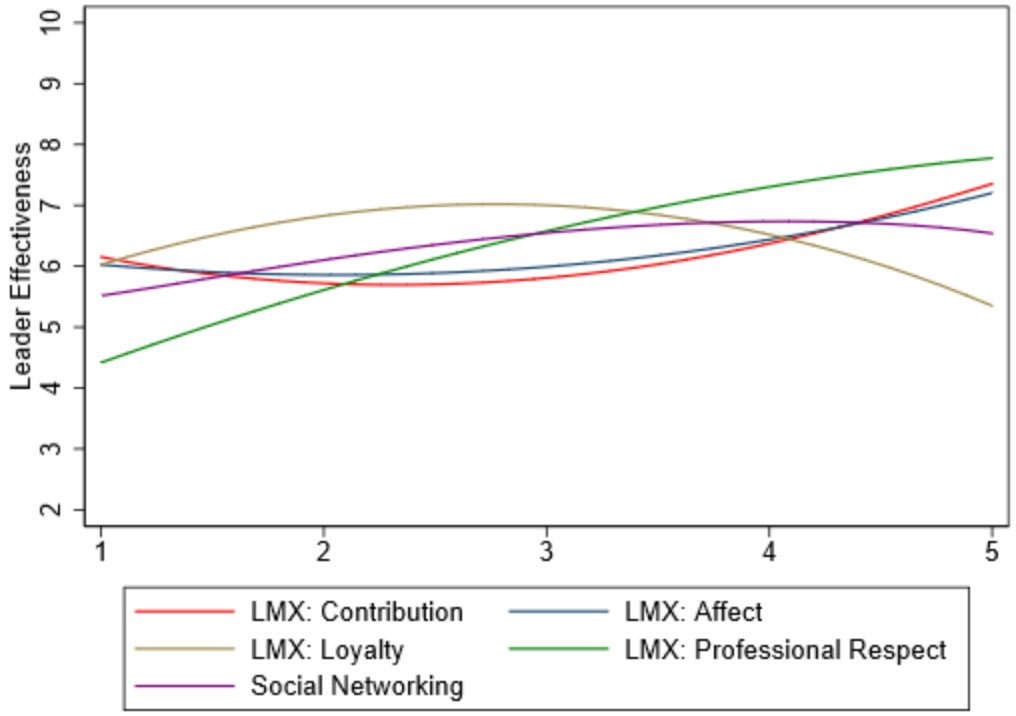


Figure A108.2. Judgment policy by leadership quality for Case 108 based on predicted leader-effectiveness scores from quadric regression.

Table A109.1

Case 109 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.19	1.17	-0.17	.868	-2.59	2.20
contribution2	0.06	0.19	0.30	.768	-0.34	0.46
loyal	-0.69	1.25	-0.56	.583	-3.25	1.87
loyal2	0.14	0.20	0.67	.509	-0.28	0.55
affect	1.29	1.16	1.11	.276	-1.09	3.66
affect2	-0.24	0.19	-1.22	.232	-0.64	0.16
respect	0.94	1.13	0.84	.409	-1.37	3.26
respect2	-0.06	0.19	-0.30	.764	-0.44	0.33
network	1.13	1.21	0.94	.358	-1.35	3.61
network2	-0.16	0.20	-0.79	.434	-0.56	0.25

Note. $F_{(10, 26)} = 18.57$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .83$

Table A109.2

Case 109 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.24	0.21	1.15	.257	0.17
loyal	0.23	0.23	1.03	.311	0.15
affect	0.00	0.21	-0.02	.984	0.00
respect	0.74	0.21	3.60	.001	0.51
network	0.30	0.23	1.31	.200	0.19

Note. $F_{(5, 31)} = 38.95$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .84$

Case 109 Observed Judgment Policy of School Building Leader Effectiveness

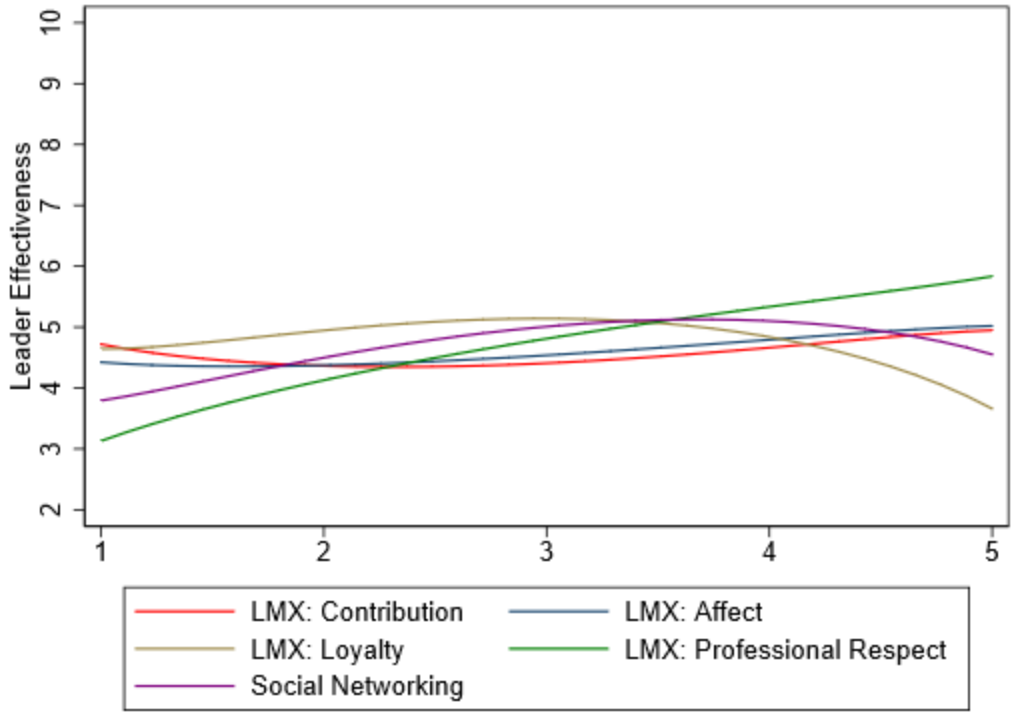


Figure A109.1. Judgment policy by leadership quality for Case 109 based on observed leader-effectiveness scores.

Case 109 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

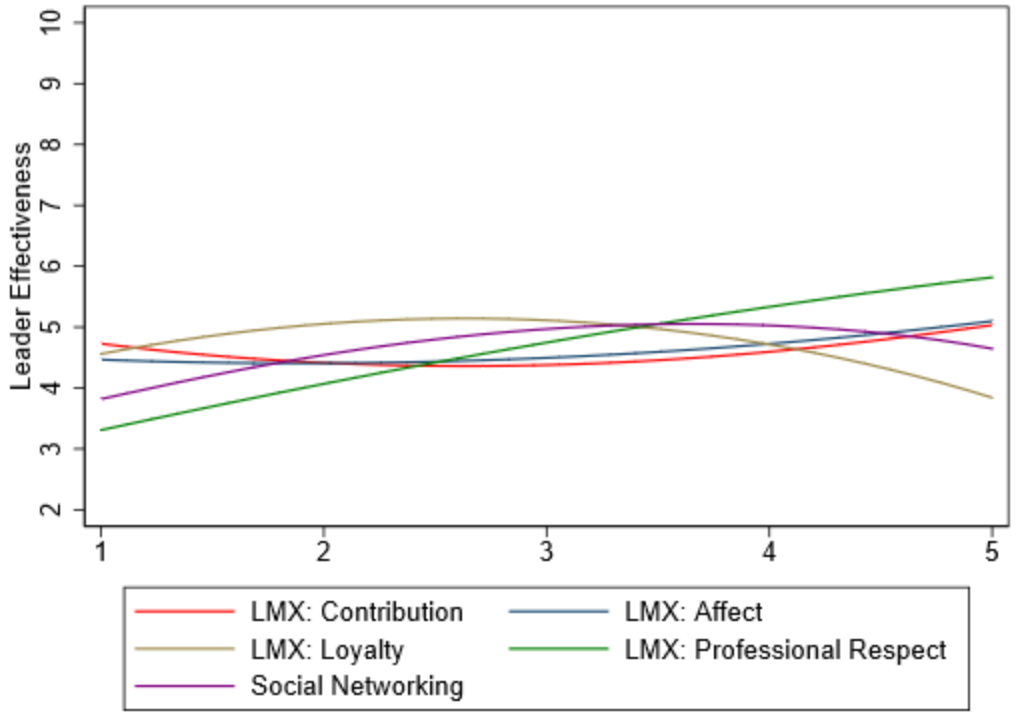


Figure A109.2. Judgment policy by leadership quality for Case 109 based on predicted leader-effectiveness scores from quadric regression.

Table A110.1

Case 110 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.48	0.85	0.57	.576	-1.27	2.24
contribution2	-0.05	0.14	-0.37	.713	-0.35	0.24
loyal	-1.35	0.91	-1.47	.152	-3.22	0.53
loyal2	0.26	0.15	1.74	.094	-0.05	0.56
affect	0.86	0.85	1.02	.316	-0.87	2.60
affect2	-0.11	0.14	-0.78	.441	-0.40	0.18
respect	0.71	0.82	0.86	.398	-0.99	2.40
respect2	0.04	0.14	0.32	.755	-0.24	0.32
network	0.79	0.88	0.89	.382	-1.03	2.60
network2	-0.06	0.14	-0.41	.683	-0.35	0.24

Note. $F_{(10, 26)} = 46.89$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A110.2

Case 110 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.13	0.16	0.87	.393	0.10
loyal	0.18	0.17	1.11	.277	0.12
affect	0.18	0.16	1.14	.262	0.13
respect	0.90	0.15	5.89	.000	0.63
network	0.39	0.17	2.30	.029	0.25

Note. $F_{(5, 31)} = 97.97$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 110 Observed Judgment Policy of School Building Leader Effectiveness

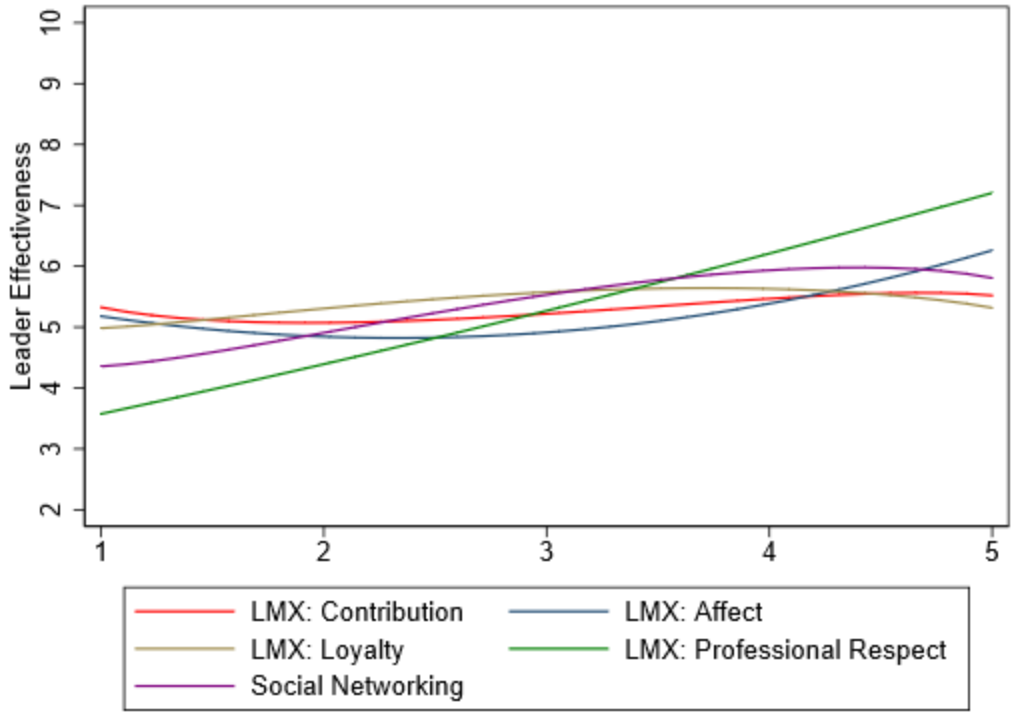


Figure A110.1. Judgment policy by leadership quality for Case 110 based on observed leader-effectiveness scores.

Case 110 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

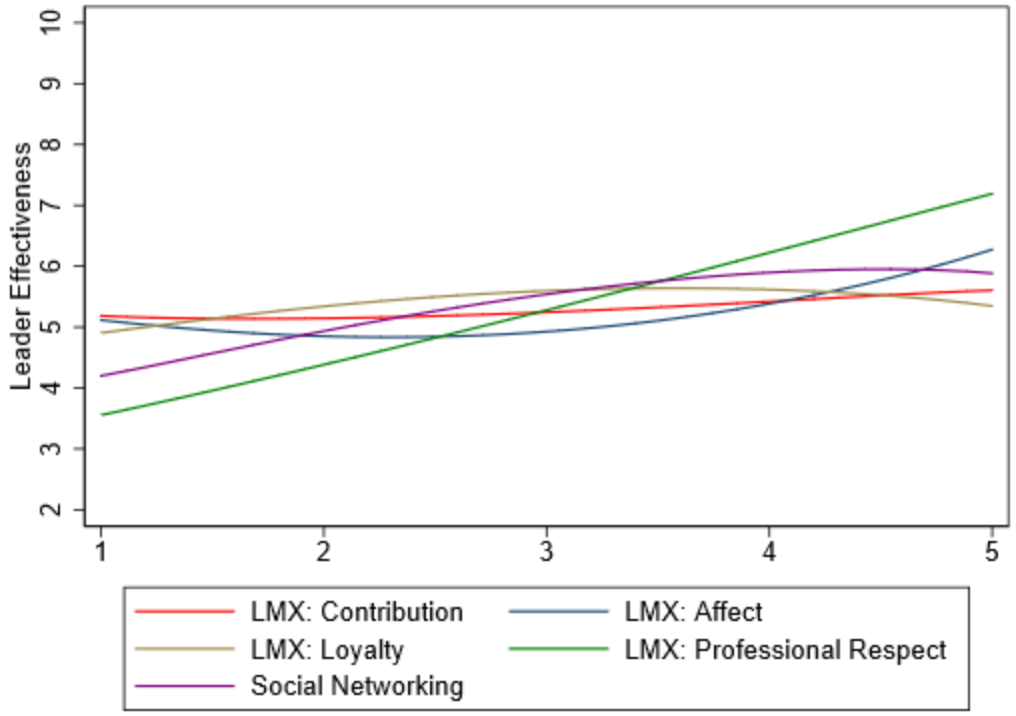


Figure A110.2. Judgment policy by leadership quality for Case 110 based on predicted leader-effectiveness scores from quadric regression.

Table A111.1

Case 111 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.48	1.12	0.43	.669	-1.81	2.78
contribution2	-0.01	0.19	-0.03	.974	-0.39	0.38
loyal	-2.59	1.20	-2.17	.039	-5.05	-0.14
loyal2	0.47	0.19	2.42	.023	0.07	0.87
affect	1.48	1.11	1.33	.193	-0.80	3.76
affect2	-0.22	0.19	-1.16	.258	-0.60	0.17
respect	1.37	1.08	1.27	.216	-0.85	3.59
respect2	-0.12	0.18	-0.70	.493	-0.49	0.24
network	1.58	1.16	1.37	.183	-0.80	3.96
network2	-0.21	0.19	-1.14	.266	-0.60	0.17

Note. $F_{(10, 26)} = 33.64$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A111.2

Case 111 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.48	0.22	2.23	.033	0.31
loyal	0.30	0.23	1.30	.203	0.19
affect	0.26	0.22	1.20	.239	0.17
respect	0.62	0.21	2.96	.006	0.40
network	0.32	0.23	1.35	.187	0.19

Note. $F_{(5, 31)} = 61.75$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 111 Observed Judgment Policy of School Building Leader Effectiveness

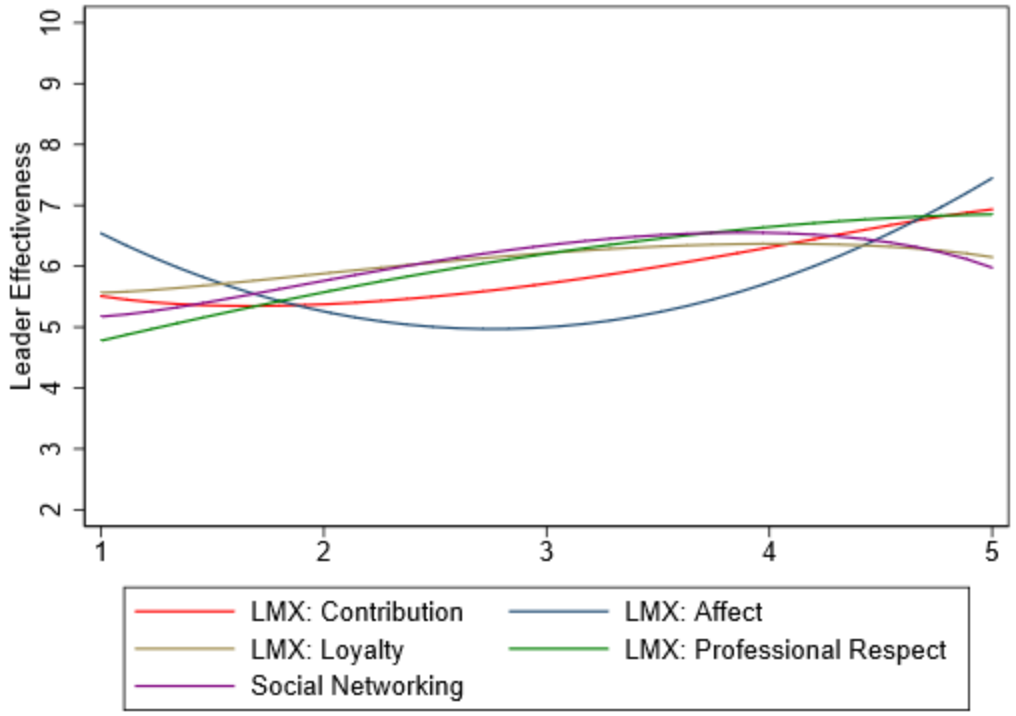


Figure A111.1. Judgment policy by leadership quality for Case 111 based on observed leader-effectiveness scores.

Case 111 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

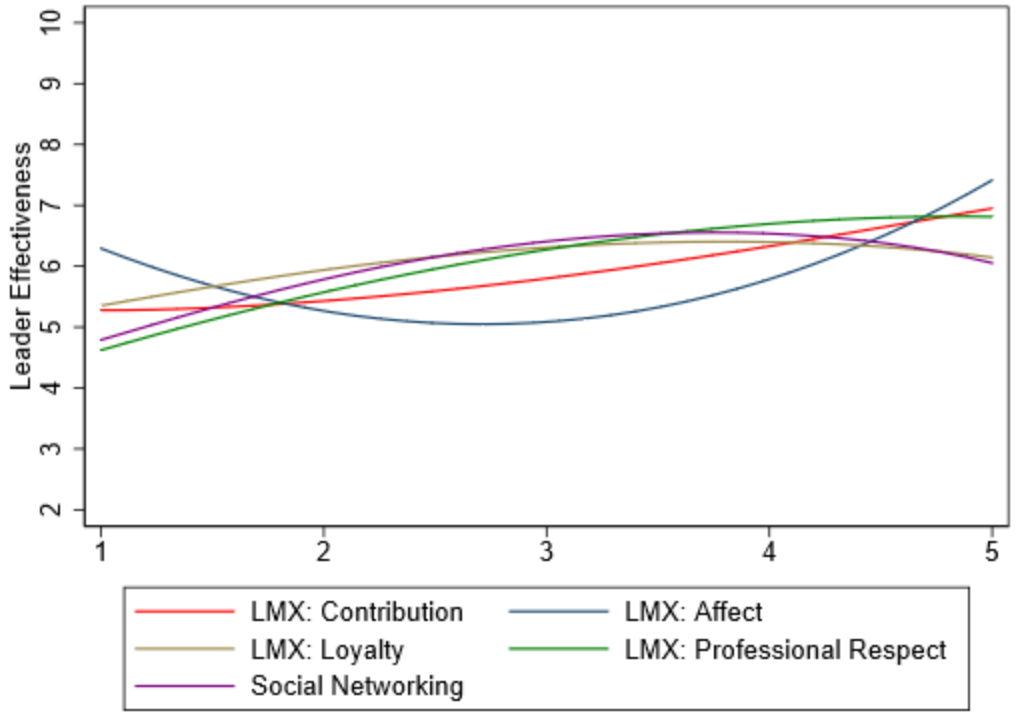


Figure A111.2. Judgment policy by leadership quality for Case 111 based on predicted leader-effectiveness scores from quadric regression.

Table A112.1

Case 112 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.19	1.42	0.14	.893	-2.72	3.11
contribution2	-0.01	0.24	-0.03	.974	-0.49	0.48
loyal	-1.49	1.52	-0.98	.335	-4.60	1.63
loyal2	0.33	0.25	1.32	.198	-0.18	0.83
affect	0.80	1.41	0.57	.576	-2.09	3.68
affect2	-0.13	0.24	-0.57	.574	-0.62	0.35
respect	1.37	1.37	1.00	.326	-1.44	4.18
respect2	-0.10	0.23	-0.44	.661	-0.57	0.37
network	1.97	1.47	1.34	.192	-1.05	4.99
network2	-0.26	0.24	-1.10	.281	-0.75	0.23

Note. $F_{(10, 26)} = 25.38$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A112.2

Case 112 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.23	0.26	0.91	.371	0.13
loyal	0.57	0.27	2.08	.046	0.30
affect	0.09	0.26	0.36	.721	0.05
respect	0.84	0.25	3.33	.002	0.46
network	0.44	0.28	1.59	.123	0.22

Note. $F_{(5, 31)} = 53.80$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 112 Observed Judgment Policy of School Building Leader Effectiveness

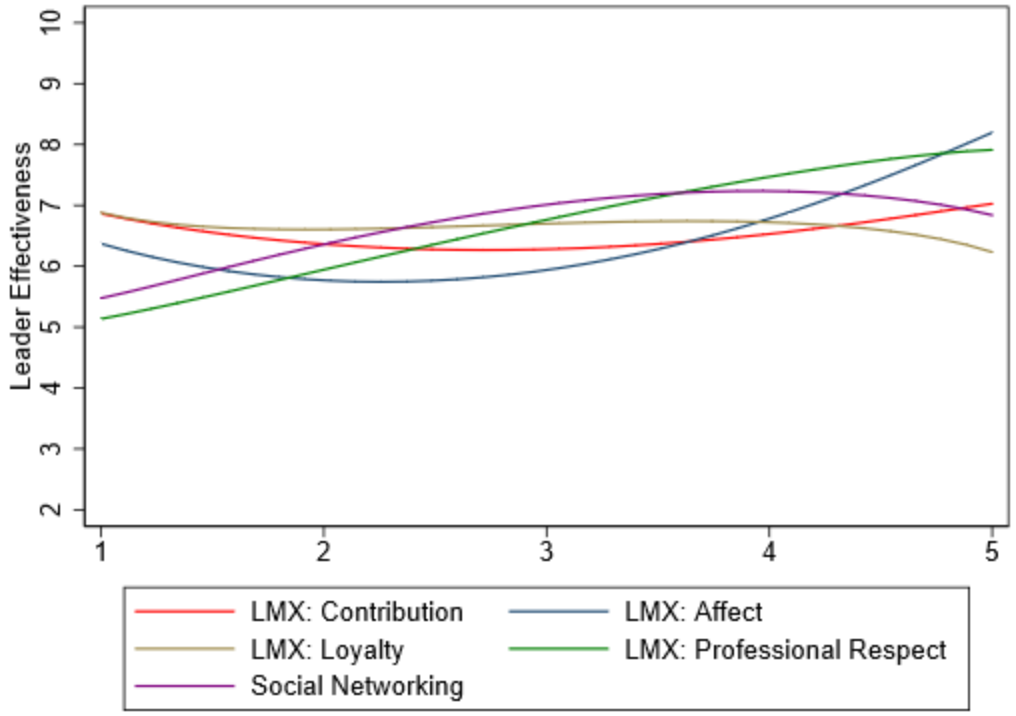


Figure A112.1. Judgment policy by leadership quality for Case 3 based on observed leader-effectiveness scores.

Case 112 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

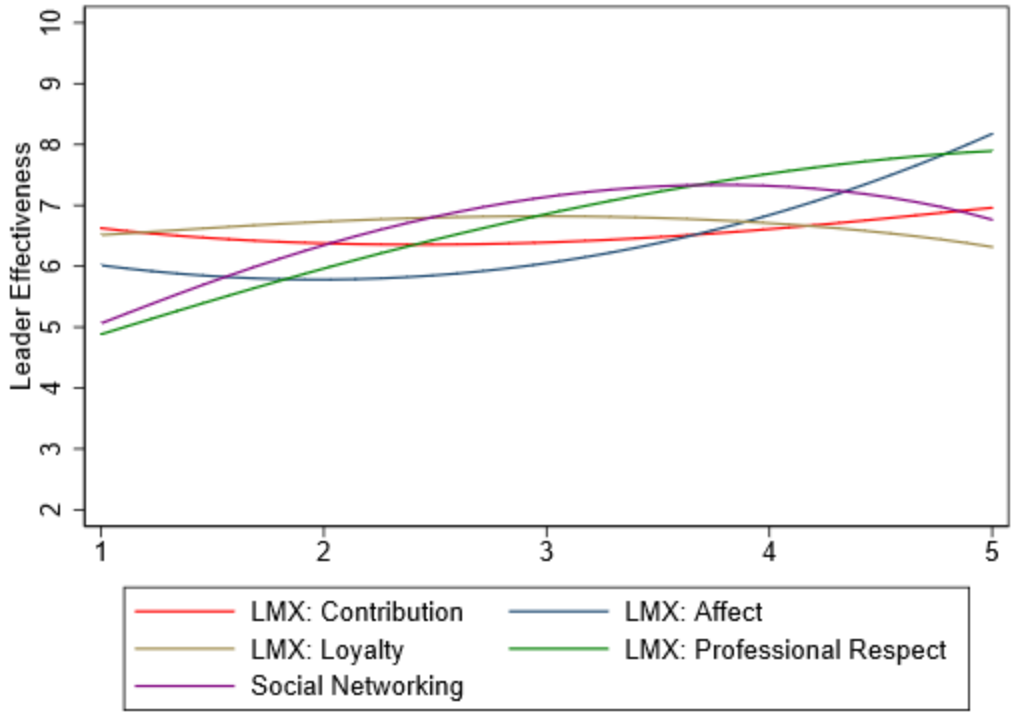


Figure A112.2. Judgment policy by leadership quality for Case 112 based on predicted leader-effectiveness scores from quadric regression.

Table A113.1

Case 113 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.06	0.85	0.08	.940	-1.68	1.81
contribution2	-0.01	0.14	-0.04	.967	-0.30	0.29
loyal	-1.07	0.91	-1.18	.250	-2.94	0.80
loyal2	0.21	0.15	1.41	.170	-0.10	0.51
affect	0.80	0.84	0.95	.350	-0.93	2.54
affect2	-0.18	0.14	-1.29	.210	-0.47	0.11
respect	1.82	0.82	2.22	.035	0.13	3.51
respect2	-0.07	0.14	-0.50	.624	-0.35	0.21
network	0.42	0.88	0.47	.640	-1.39	2.23
network2	-0.01	0.14	-0.04	.969	-0.30	0.29

Note. $F_{(10, 26)} = 54.79$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A113.2

Case 113 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.03	0.15	0.19	.849	0.02
loyal	0.21	0.16	1.30	.204	0.11
affect	-0.24	0.16	-1.56	.128	-0.14
respect	1.42	0.15	9.40	.000	0.79
network	0.41	0.17	2.45	.020	0.21

Note. $F_{(5, 31)} = 115.75$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 113 Observed Judgment Policy of School Building Leader Effectiveness

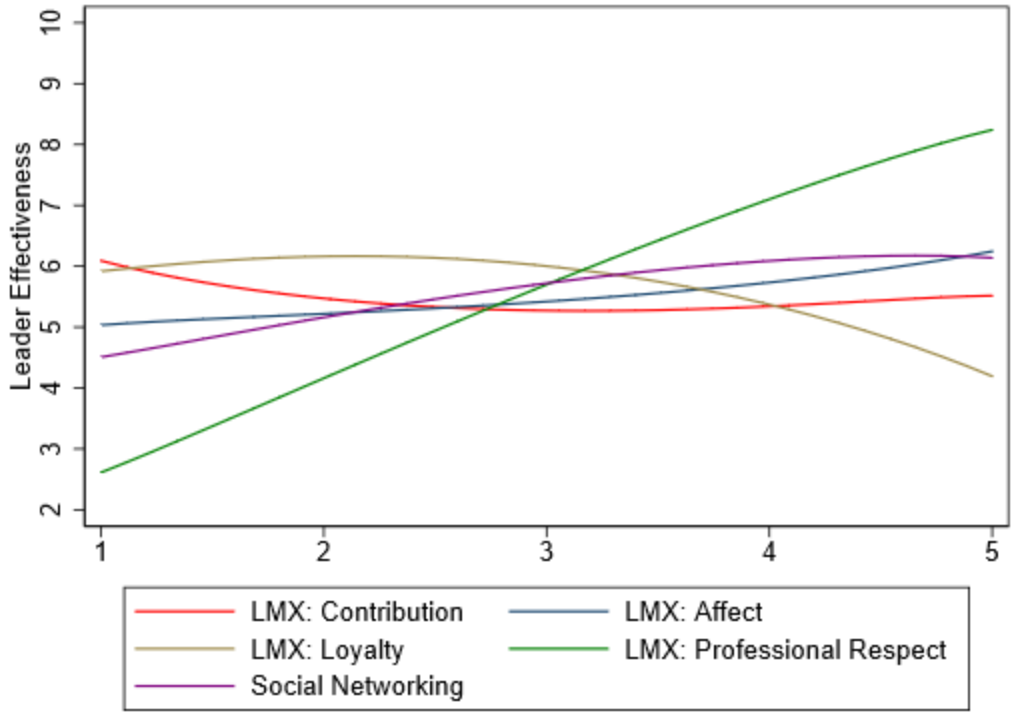


Figure A113.1. Judgment policy by leadership quality for Case 113 based on observed leader-effectiveness scores.

Case 113 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

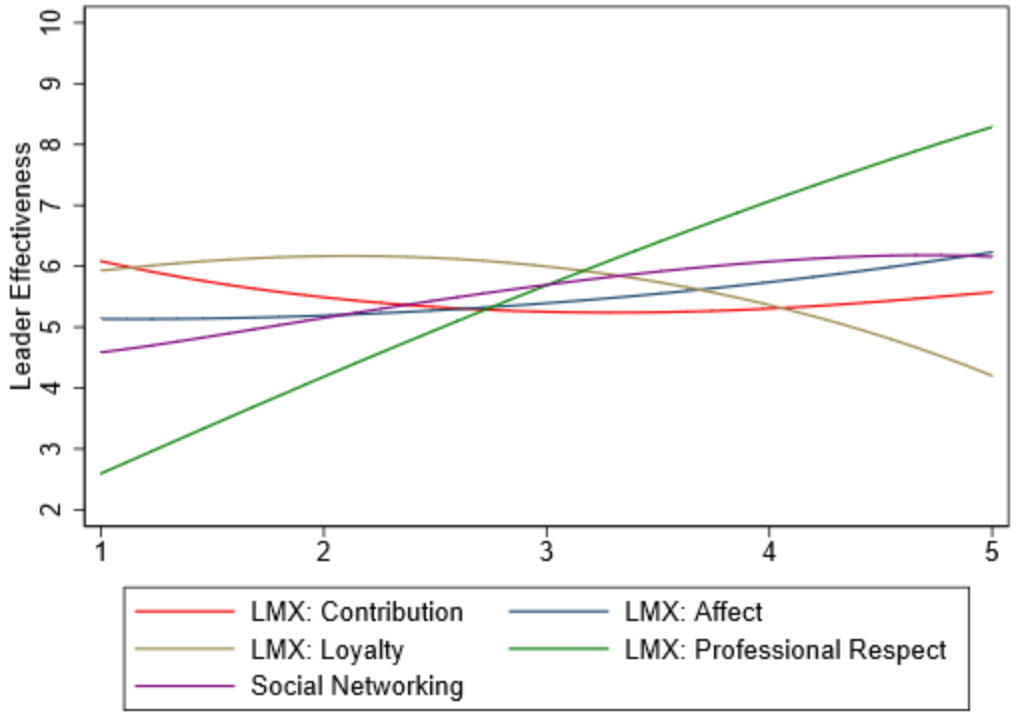


Figure A113.2. Judgment policy by leadership quality for Case 113 based on predicted leader-effectiveness scores from quadric regression.

Table A114.1

Case 114 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.53	1.17	-1.31	.201	-3.93	0.87
contribution2	0.23	0.20	1.16	.258	-0.18	0.63
loyal	-0.75	1.25	-0.60	.552	-3.32	1.81
loyal2	0.24	0.20	1.16	.256	-0.18	0.65
affect	-0.48	1.16	-0.41	.683	-2.86	1.90
affect2	0.00	0.19	0.01	.991	-0.40	0.40
respect	3.39	1.13	3.01	.006	1.07	5.71
respect2	-0.23	0.19	-1.21	.237	-0.61	0.16
network	0.43	1.21	0.35	.726	-2.06	2.91
network2	-0.03	0.20	-0.17	.870	-0.44	0.37

Note. $F_{(10, 26)} = 34.20$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A114.2

Case 114 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.27	0.22	-1.26	.218	-0.10
loyal	0.62	0.23	2.64	.013	0.22
affect	-0.56	0.22	-2.51	.017	-0.21
respect	1.92	0.21	8.98	.000	0.71
network	0.13	0.24	0.54	.593	0.04

Note. $F_{(5, 31)} = 67.46$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 114 Observed Judgment Policy of School Building Leader Effectiveness

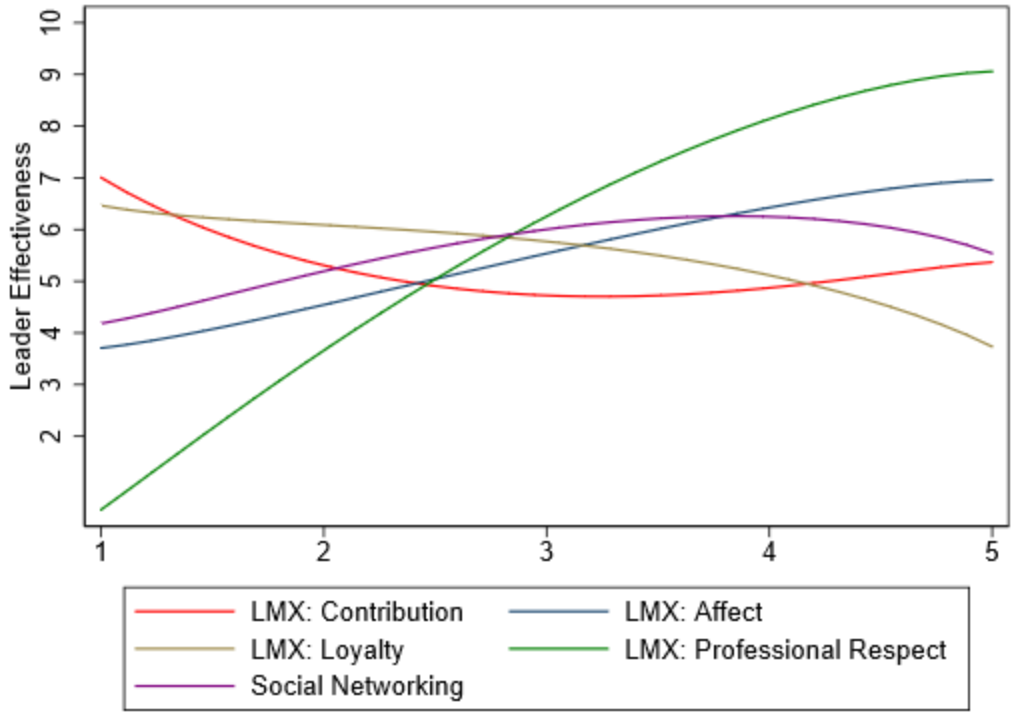


Figure A114.1. Judgment policy by leadership quality for Case 114 based on observed leader-effectiveness scores.

Case 114 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

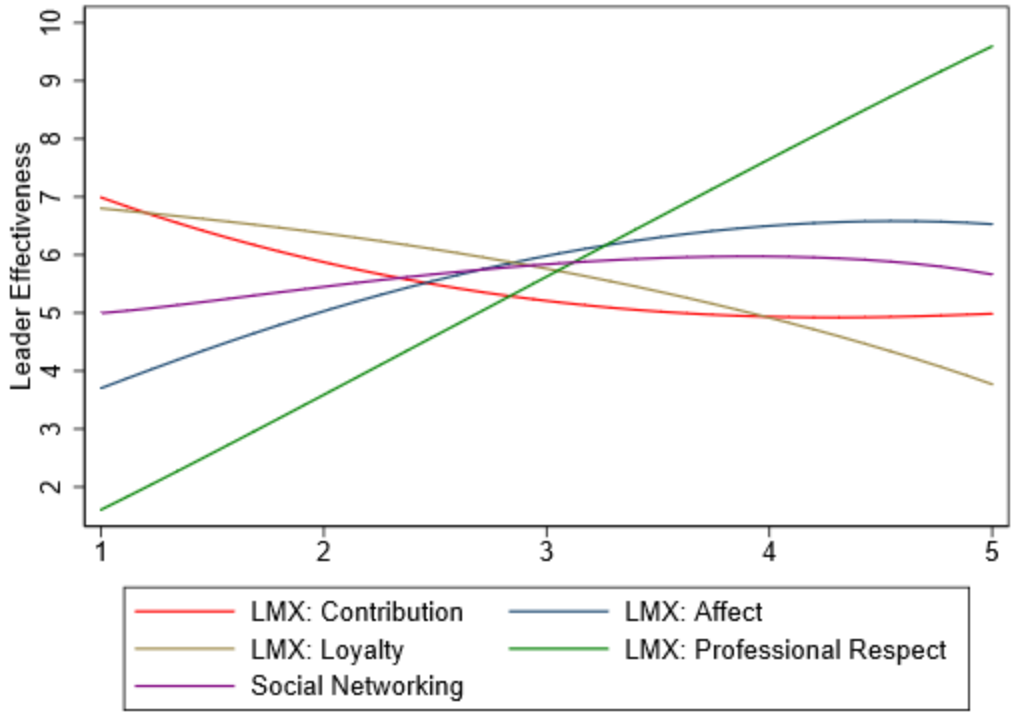


Figure A114.2. Judgment policy by leadership quality for Case 114 based on predicted leader-effectiveness scores from quadric regression.

Table A115.1

Case 115 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.22	0.76	0.29	.778	-1.35	1.78
contribution2	-0.01	0.13	-0.05	.961	-0.27	0.26
loyal	-0.35	0.81	-0.43	.667	-2.03	1.32
loyal2	0.06	0.13	0.47	.643	-0.21	0.33
affect	0.12	0.76	0.16	.877	-1.44	1.67
affect2	0.00	0.13	-0.02	.987	-0.26	0.26
respect	1.59	0.74	2.16	.040	0.08	3.10
respect2	0.01	0.12	0.09	.927	-0.24	0.26
network	0.14	0.79	0.17	.863	-1.48	1.76
network2	-0.02	0.13	-0.14	.888	-0.28	0.25

Note. $F_{(10, 26)} = 71.02$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A115.2

Case 115 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.16	0.13	1.25	.222	0.09
loyal	0.01	0.14	0.04	.971	0.00
affect	0.09	0.13	0.65	.520	0.05
respect	1.63	0.13	12.66	.000	0.89
network	0.00	0.14	0.02	.981	0.00

Note. $F_{(5, 31)} = 167.28$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .958$

Case 115 Observed Judgment Policy of School Building Leader Effectiveness

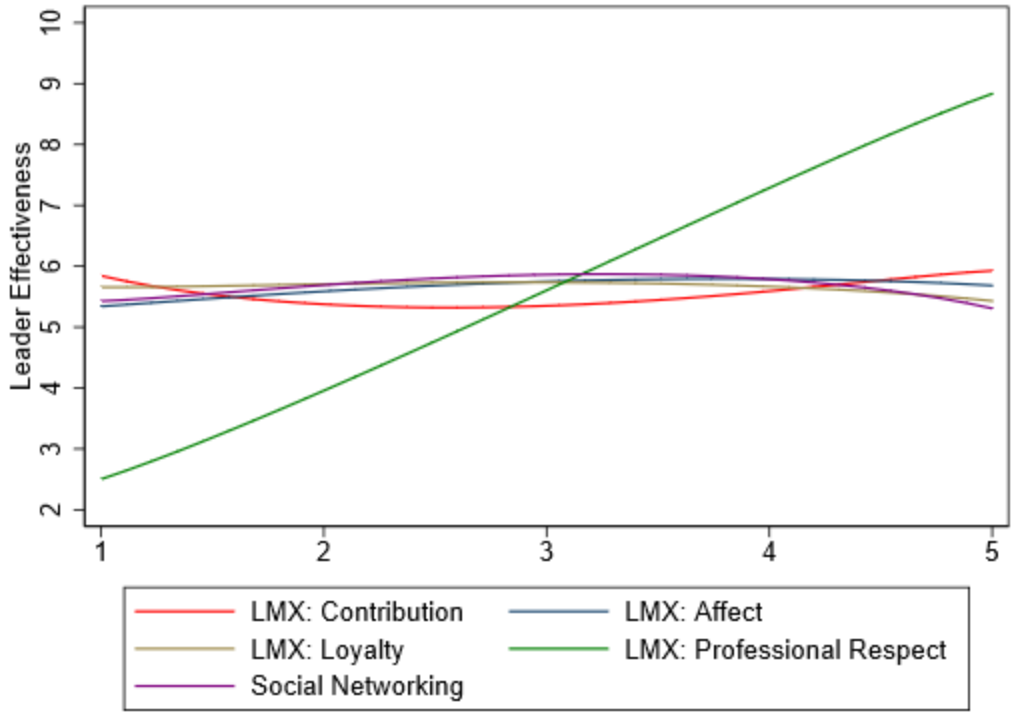


Figure A115.1. Judgment policy by leadership quality for Case 115 based on observed leader-effectiveness scores.

Case 115 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

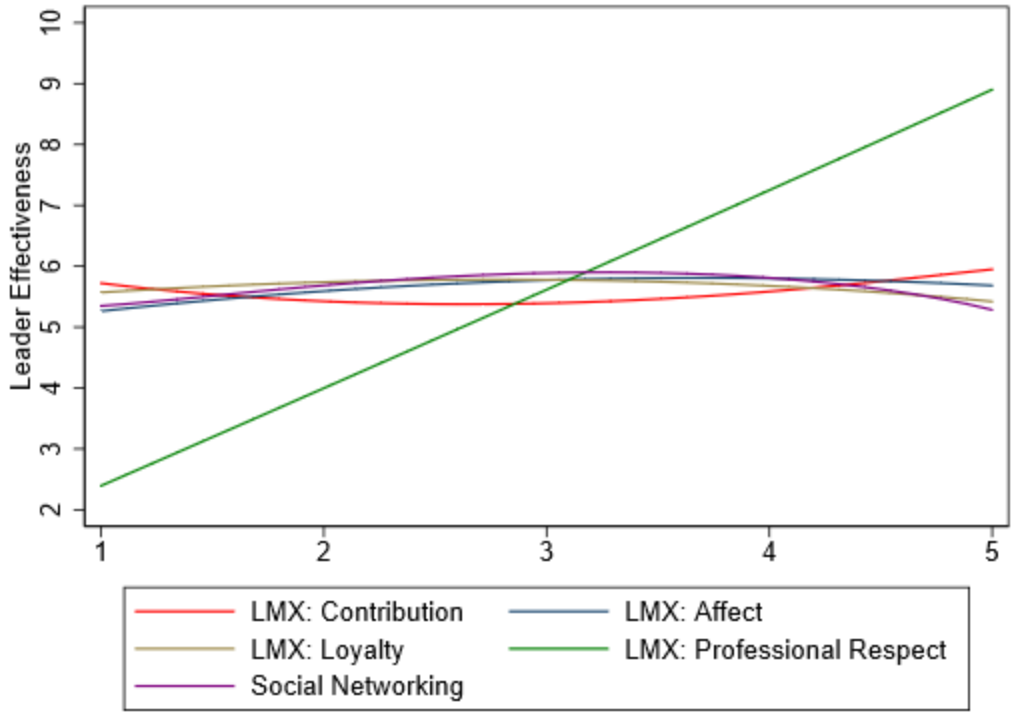


Figure A115.2. Judgment policy by leadership quality for Case 115 based on predicted leader-effectiveness scores from quadric regression.

Table A116.1

Case 116 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.05	1.16	-0.91	.373	-3.44	1.33
contribution2	0.21	0.19	1.06	.298	-0.19	0.61
loyal	-1.43	1.24	-1.15	.260	-3.98	1.12
loyal2	0.28	0.20	1.37	.184	-0.14	0.69
affect	1.99	1.15	1.73	.096	-0.38	4.36
affect2	-0.31	0.19	-1.62	.117	-0.71	0.08
respect	2.48	1.12	2.21	.036	0.17	4.78
respect2	-0.16	0.19	-0.85	.405	-0.54	0.22
network	-0.25	1.20	-0.21	.837	-2.72	2.22
network2	0.06	0.20	0.30	.763	-0.34	0.46

Note. $F_{(10, 26)} = 33.49$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A116.2

Case 116 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.10	0.22	0.47	.643	0.05
loyal	0.21	0.24	0.91	.371	0.10
affect	0.10	0.22	0.43	.673	0.05
respect	1.48	0.22	6.89	.000	0.71
network	0.09	0.24	0.37	.712	0.04

Note. $F_{(5, 31)} = 64.07$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 116 Observed Judgment Policy of School Building Leader Effectiveness

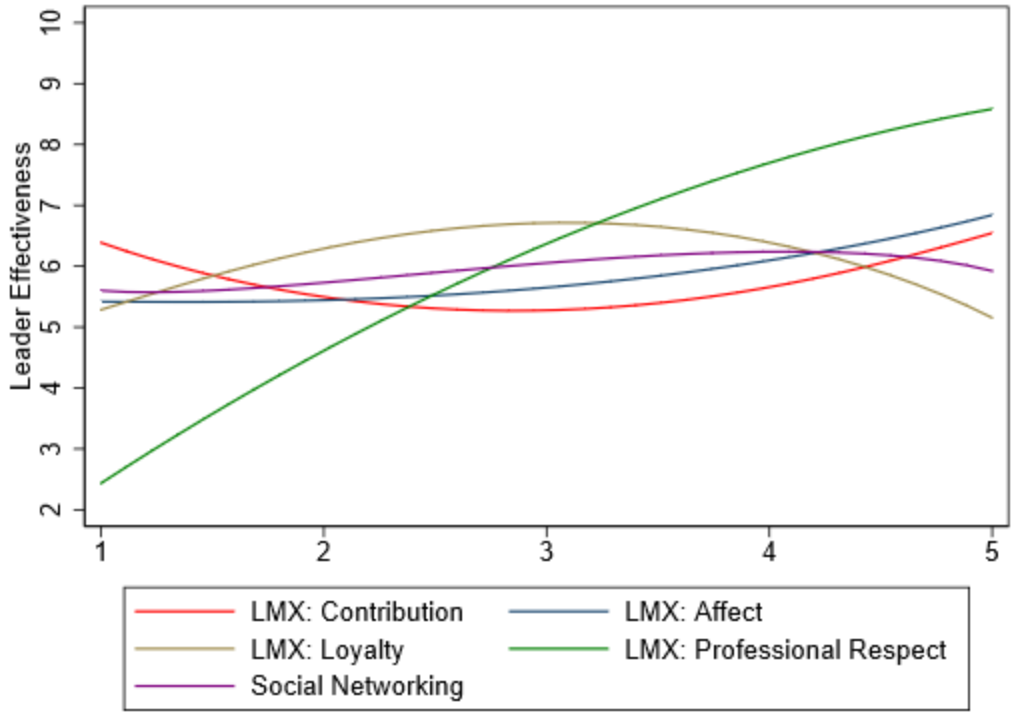


Figure A116.1. Judgment policy by leadership quality for Case 116 based on observed leader-effectiveness scores.

Case 116 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

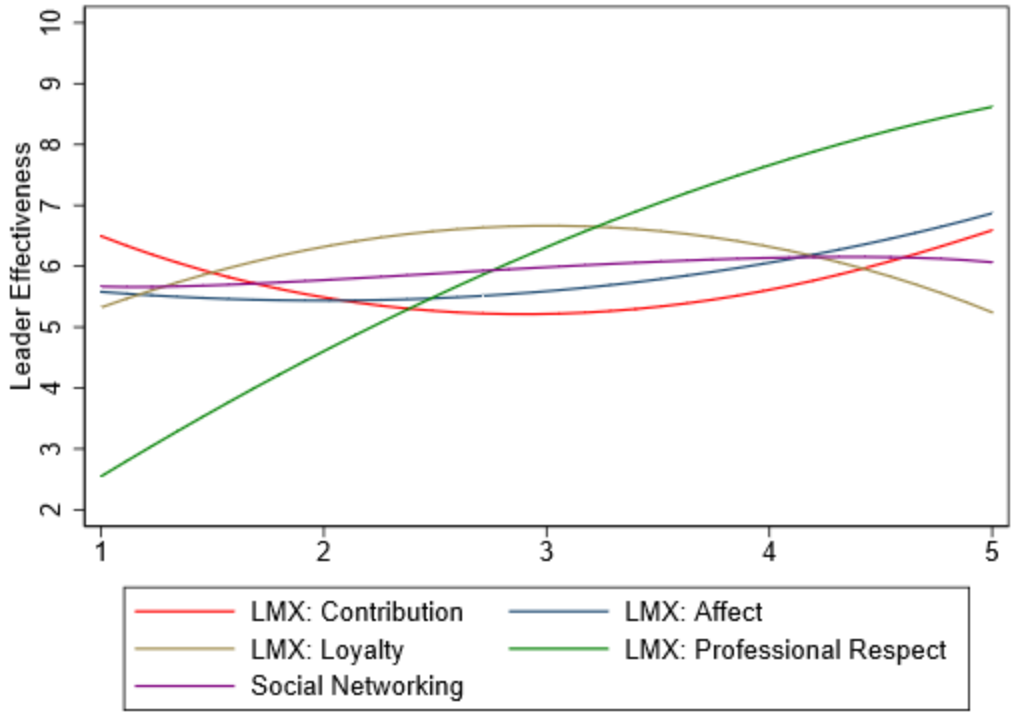


Figure A116.2. Judgment policy by leadership quality for Case 116 based on predicted leader-effectiveness scores from quadric regression.

Table A117.1

Case 117 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	2.00	0.78	2.57	.016	0.40	3.61
contribution2	-0.28	0.13	-2.16	.040	-0.55	-0.01
loyal	0.48	0.83	0.58	.567	-1.23	2.20
loyal2	-0.02	0.14	-0.18	.859	-0.30	0.25
affect	2.39	0.77	3.09	.005	0.80	3.98
affect2	-0.38	0.13	-2.94	.007	-0.65	-0.11
respect	0.45	0.75	0.59	.559	-1.10	1.99
respect2	-0.05	0.12	-0.39	.696	-0.31	0.21
network	-0.98	0.81	-1.21	.236	-2.64	0.68
network2	0.15	0.13	1.15	.261	-0.12	0.42

Note. $F_{(10, 26)} = 77.79$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A117.2

Case 117 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.50	0.19	2.64	.013	0.50
loyal	0.54	0.20	2.65	.013	0.51
affect	0.41	0.19	2.11	.043	0.40
respect	0.42	0.19	2.26	.031	0.42
network	0.23	0.21	1.14	.264	0.21

Note. $F_{(5, 31)} = 89.15$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Case 117 Observed Judgment Policy of School Building Leader Effectiveness

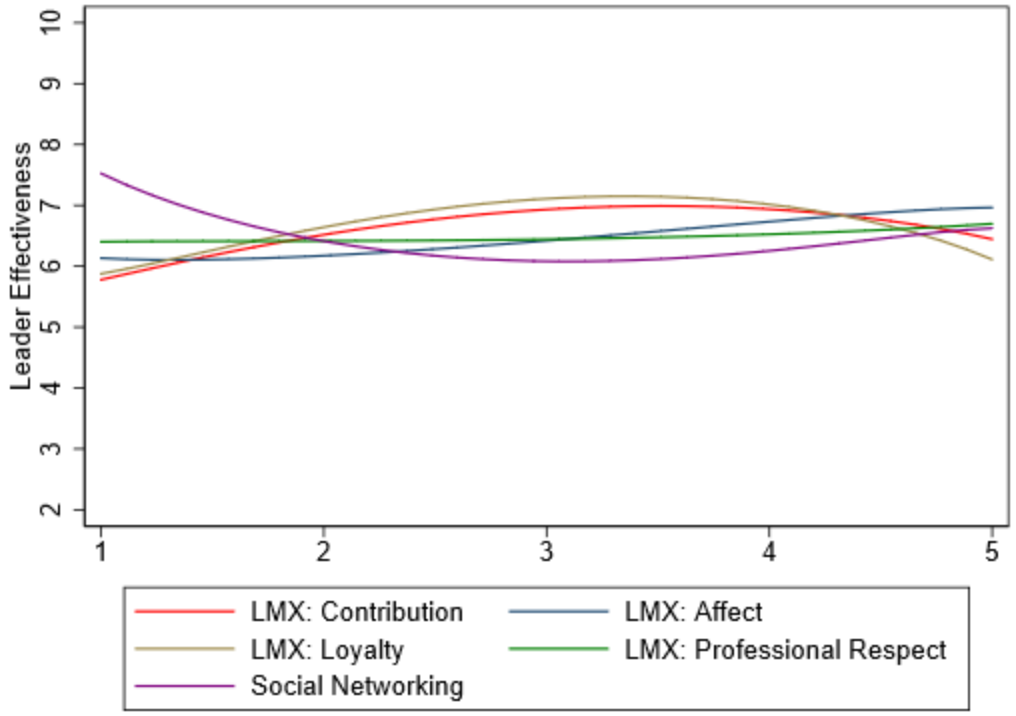


Figure A117.1. Judgment policy by leadership quality for Case 117 based on observed leader-effectiveness scores.

Case 117 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

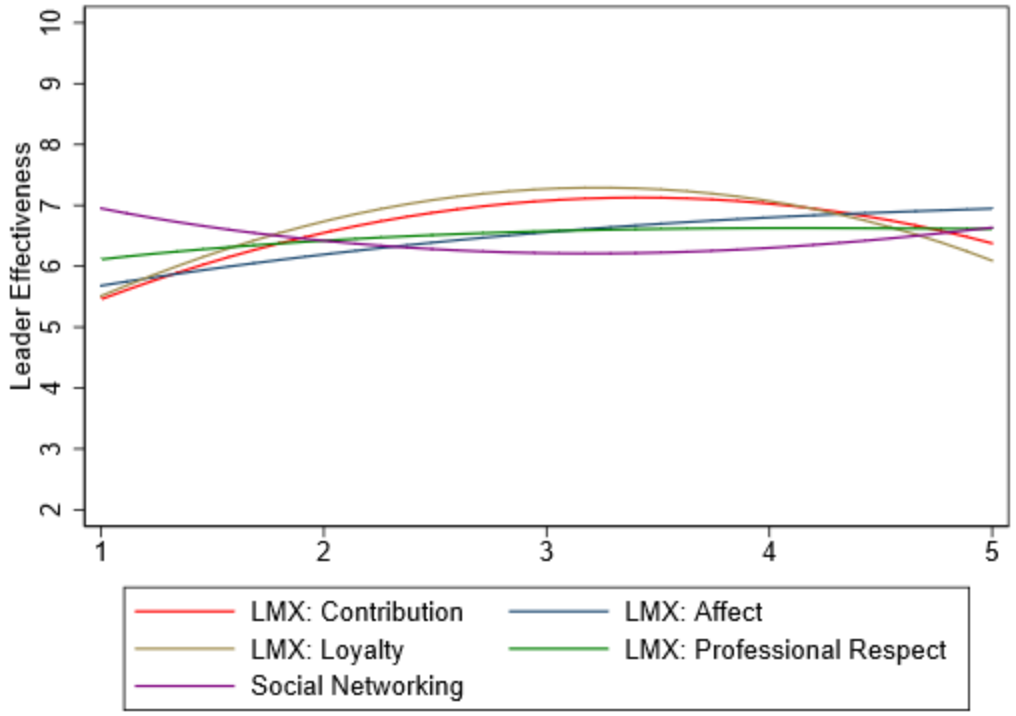


Figure A117.2. Judgment policy by leadership quality for Case 117 based on predicted leader-effectiveness scores from quadric regression.

Table A118.1

Case 118 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.11	1.04	-0.10	.918	-2.25	2.03
contribution2	0.05	0.17	0.26	.798	-0.31	0.40
loyal	-0.88	1.11	-0.79	.436	-3.17	1.41
loyal2	0.17	0.18	0.91	.369	-0.21	0.54
affect	1.88	1.03	1.81	.081	-0.25	4.00
affect2	-0.31	0.17	-1.80	.084	-0.67	0.04
respect	0.38	1.01	0.38	.707	-1.69	2.45
respect2	-0.01	0.17	-0.05	.959	-0.35	0.33
network	2.20	1.08	2.04	.051	-0.01	4.42
network2	-0.31	0.18	-1.79	.085	-0.67	0.05

Note. $F_{(10, 26)} = 35.27$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A118.2

Case 118 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.33	0.21	1.61	.118	0.27
loyal	0.29	0.22	1.31	.201	0.22
affect	0.22	0.21	1.03	.311	0.17
respect	0.56	0.20	2.79	.009	0.45
network	0.49	0.23	2.16	.038	0.35

Note. $F_{(5, 31)} = 60.82$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 118 Observed Judgment Policy of School Building Leader Effectiveness

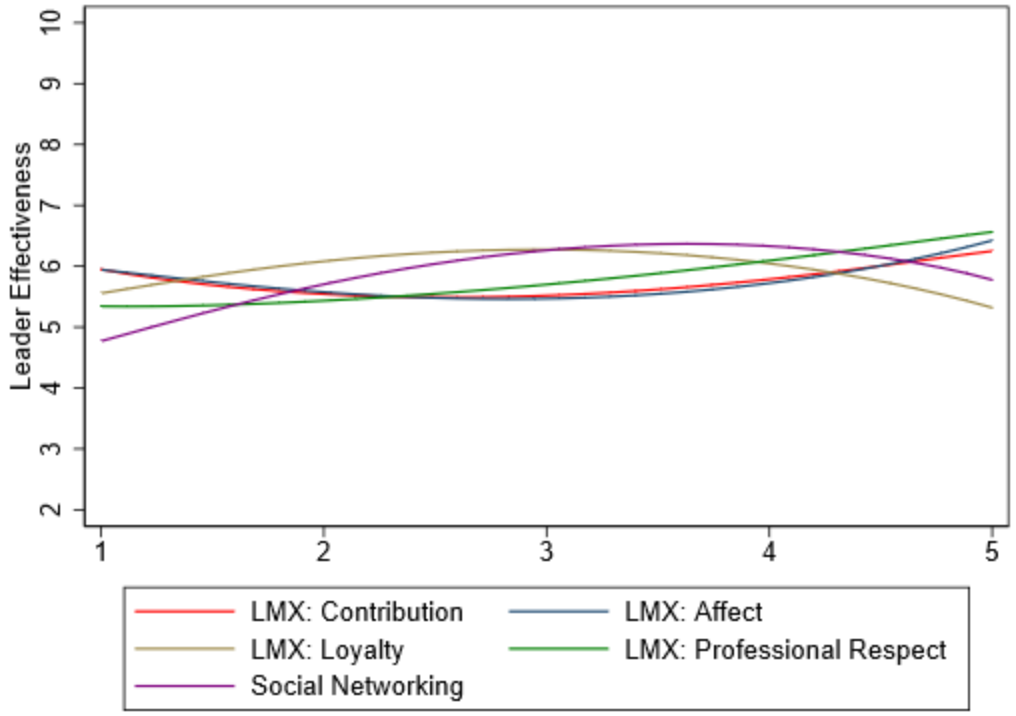


Figure A118.1. Judgment policy by leadership quality for Case 118 based on observed leader-effectiveness scores.

Case 118 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

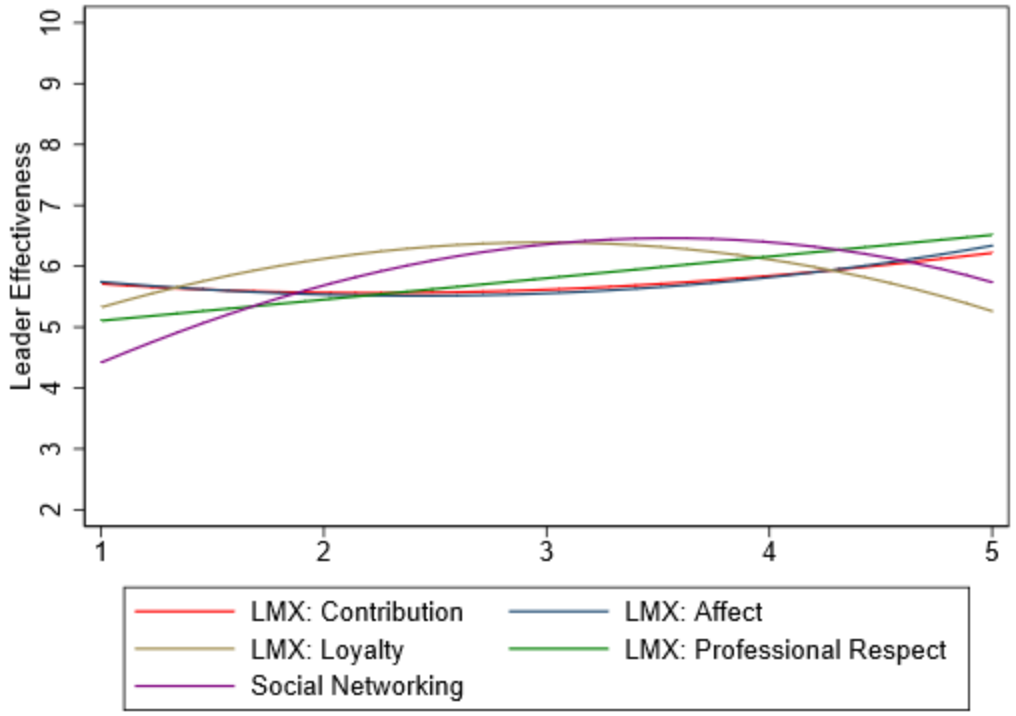


Figure A118.2. Judgment policy by leadership quality for Case 118 based on predicted leader-effectiveness scores from quadric regression.

Table A119.1

Case 119 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.16	1.31	0.89	.383	-1.53	3.85
contribution2	-0.17	0.22	-0.76	.452	-0.62	0.28
loyal	-3.56	1.40	-2.55	.017	-6.44	-0.69
loyal2	0.63	0.23	2.77	.010	0.16	1.10
affect	1.56	1.30	1.20	.239	-1.10	4.23
affect2	-0.20	0.22	-0.90	.378	-0.64	0.25
respect	0.92	1.26	0.73	.471	-1.67	3.52
respect2	0.02	0.21	0.09	.928	-0.41	0.45
network	1.74	1.36	1.28	.211	-1.05	4.52
network2	-0.23	0.22	-1.04	.309	-0.68	0.22

Note. $F_{(10, 26)} = 26.24$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A119.2

Case 119 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.15	0.26	0.60	.553	0.08
loyal	0.23	0.27	0.85	.399	0.11
affect	0.41	0.26	1.57	.126	0.21
respect	0.93	0.25	3.72	.001	0.47
network	0.31	0.28	1.12	.270	0.14

Note. $F_{(5, 31)} = 46.43$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 119 Observed Judgment Policy of School Building Leader Effectiveness

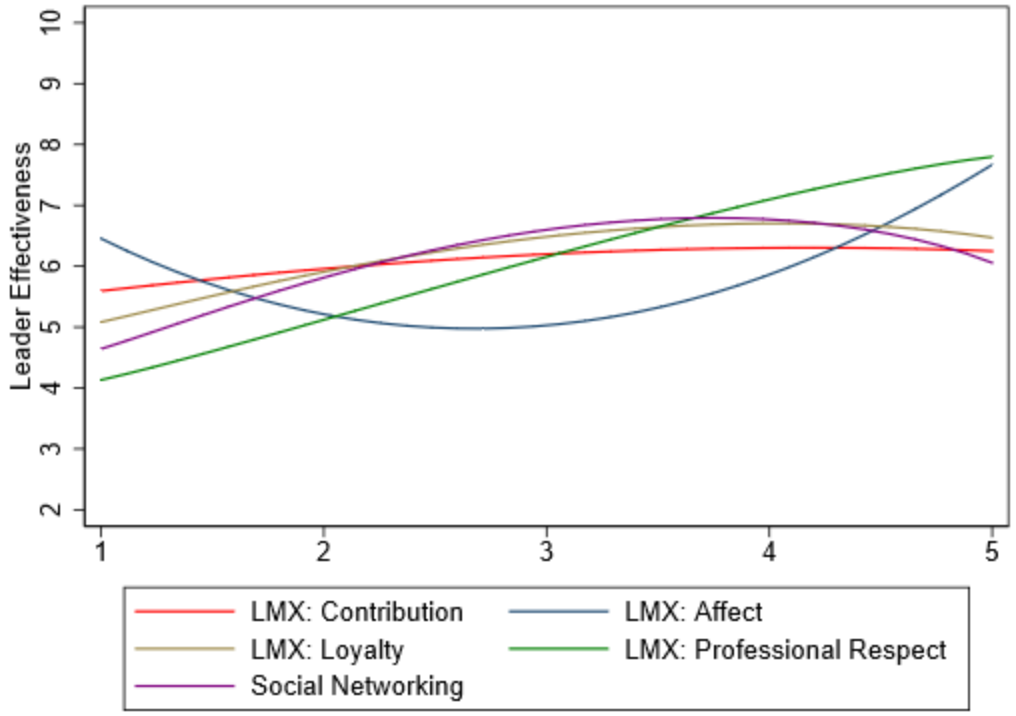


Figure A119.1. Judgment policy by leadership quality for Case 119 based on observed leader-effectiveness scores.

Case 119 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

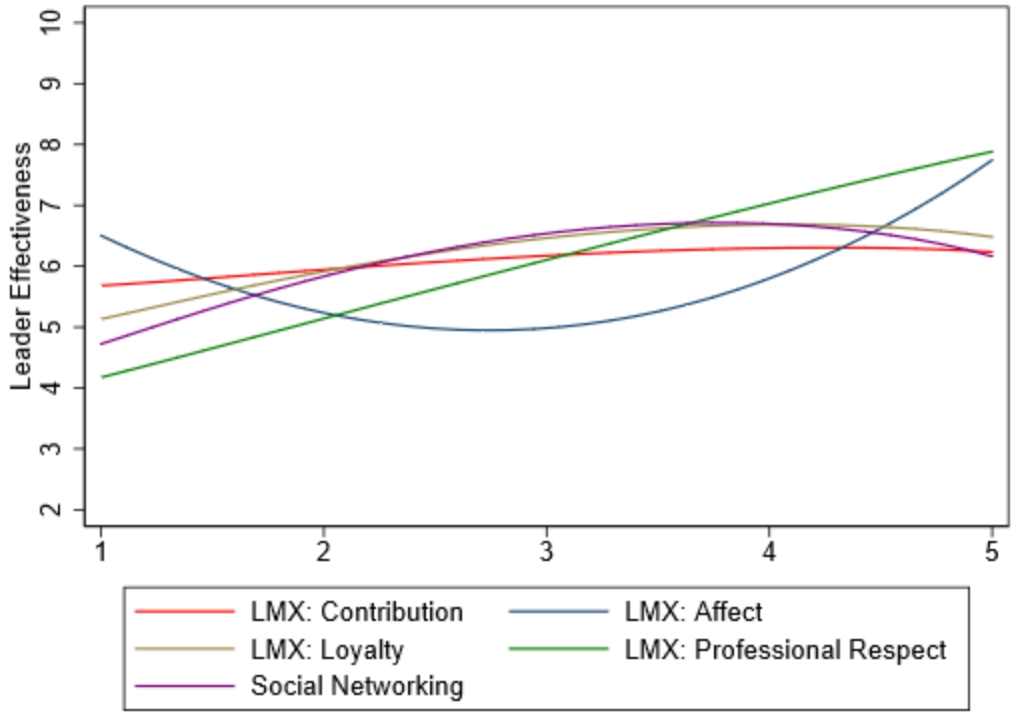


Figure A119.2. Judgment policy by leadership quality for Case 119 based on predicted leader-effectiveness scores from quadric regression.

Table A120.1

Case 120 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.34	0.65	-0.52	.609	-1.68	1.00
contribution2	0.04	0.11	0.35	.728	-0.19	0.26
loyal	-0.88	0.70	-1.26	.220	-2.31	0.56
loyal2	0.16	0.11	1.39	.176	-0.08	0.39
affect	0.42	0.65	0.64	.527	-0.92	1.75
affect2	-0.08	0.11	-0.74	.465	-0.30	0.14
respect	0.91	0.63	1.45	.160	-0.38	2.21
respect2	0.05	0.10	0.48	.632	-0.16	0.26
network	1.64	0.68	2.43	.022	0.25	3.03
network2	-0.14	0.11	-1.31	.200	-0.37	0.08

Note. $F_{(10, 26)} = 91.46$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A120.2

Case 120 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.11	0.12	-0.90	.375	-0.07
loyal	0.07	0.13	0.59	.562	0.05
affect	-0.07	0.12	-0.60	.553	-0.05
respect	1.20	0.12	10.31	.000	0.77
network	0.75	0.13	5.76	.000	0.43

Note. $F_{(5, 31)} = 190.49$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Case 120 Observed Judgment Policy of School Building Leader Effectiveness

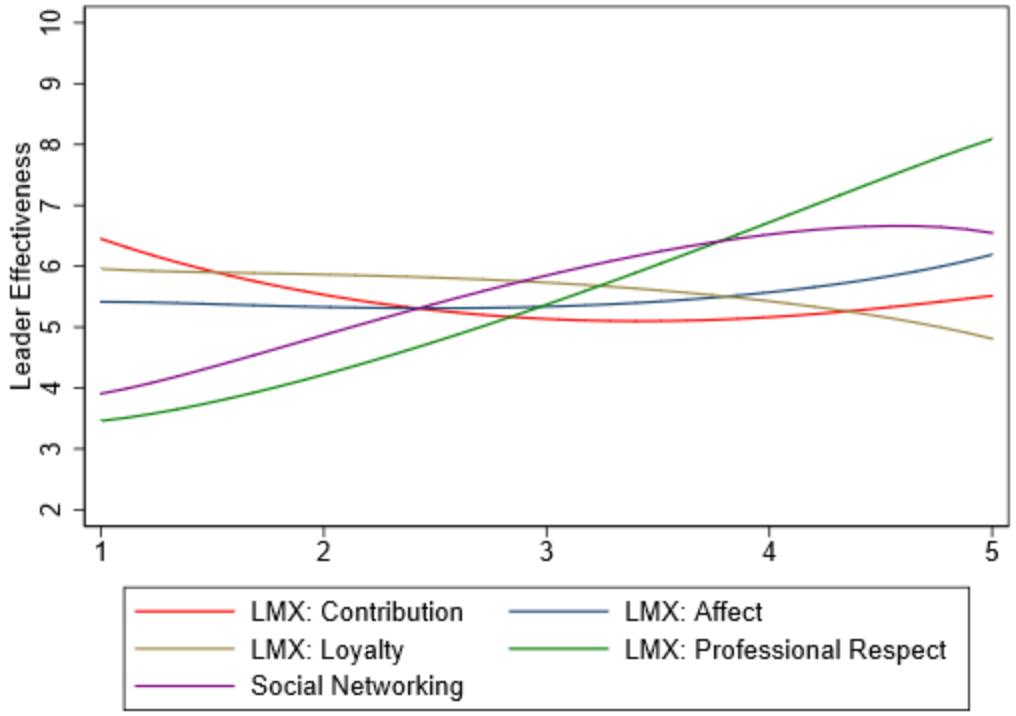


Figure A120.1. Judgment policy by leadership quality for Case 3 based on observed leader-effectiveness scores.

Case 120 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

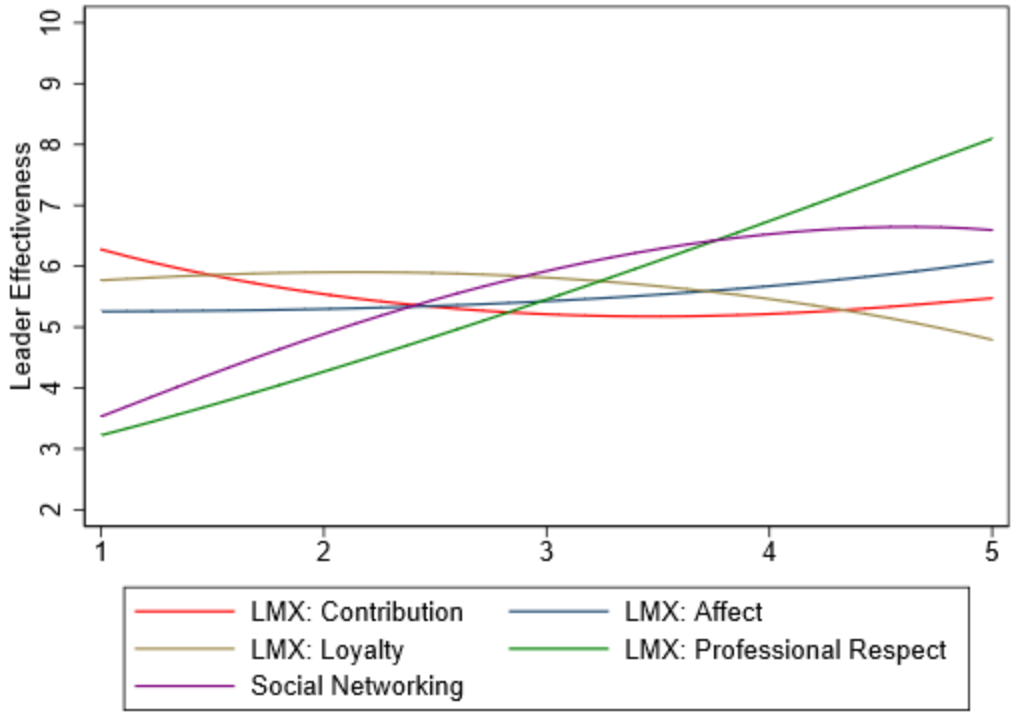


Figure A120.2. Judgment policy by leadership quality for Case 120 based on predicted leader-effectiveness scores from quadric regression.

Table A121.1

Case 121 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	*LL*	*UL*
contribution	0.80	1.27	0.63	.535	-1.82	3.42
contribution2	-0.07	0.21	-0.32	.748	-0.51	0.37
loyal	-2.59	1.36	-1.90	.068	-5.39	0.21
loyal2	0.46	0.22	2.09	.046	0.01	0.92
affect	1.18	1.26	0.93	.360	-1.42	3.78
affect2	-0.14	0.21	-0.67	.510	-0.58	0.29
respect	1.55	1.23	1.26	.218	-0.98	4.08
respect2	0.04	0.20	0.18	.856	-0.38	0.46
network	-0.32	1.32	-0.24	.811	-3.03	2.40
network2	0.12	0.21	0.54	.596	-0.33	0.56

Note. $F_{(10, 26)} = 31.54$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Table A121.2

Case 121 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	B
contribution	0.21	0.25	0.83	.412	0.09
loyal	0.05	0.26	0.19	.852	0.02
affect	0.17	0.25	0.69	.494	0.08
respect	1.50	0.24	6.20	.000	0.66
network	0.20	0.27	0.75	.456	0.08

Note. $F_{(5, 31)} = 57.42$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 121 Observed Judgment Policy of School Building Leader Effectiveness

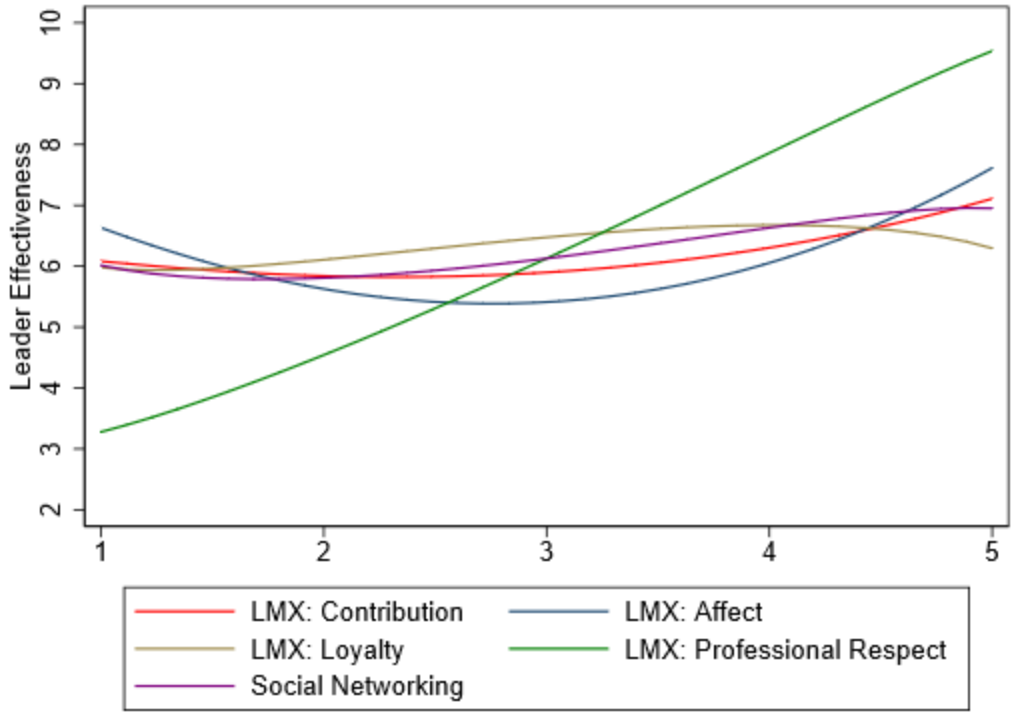


Figure A121.1. Judgment policy by leadership quality for Case 121 based on observed leader-effectiveness scores.

Case 121 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

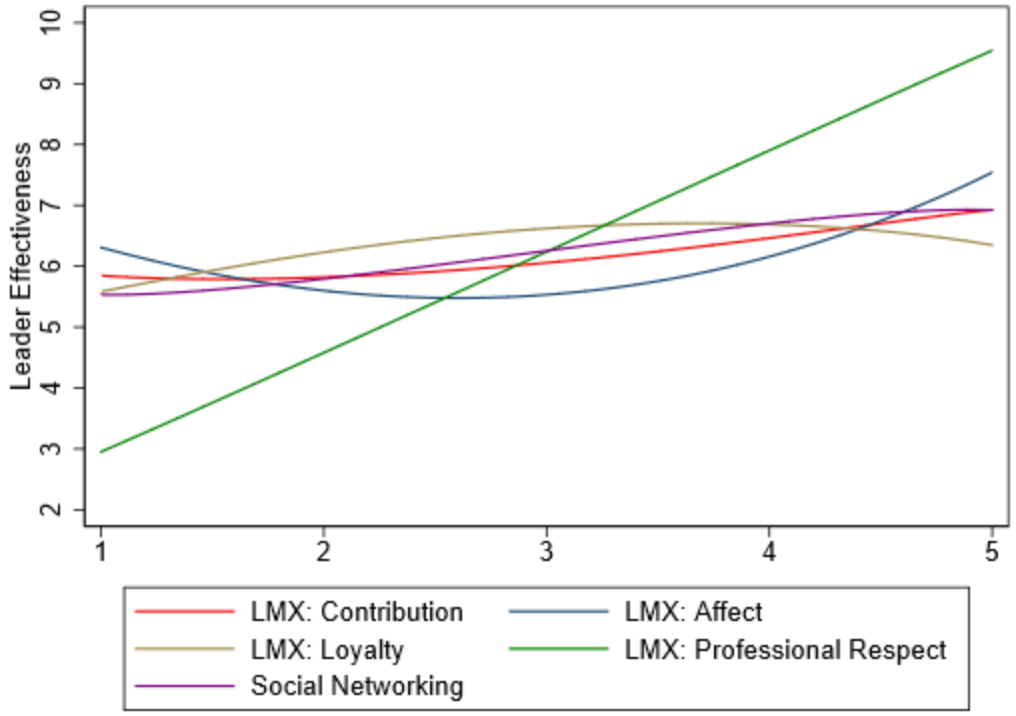


Figure A121.2. Judgment policy by leadership quality for Case 121 based on predicted leader-effectiveness scores from quadric regression.

Table A122.1

Case 122 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	*LL*	*UL*
contribution	0.76	1.44	0.53	.602	-2.19	3.71
contribution2	-0.09	0.24	-0.37	.714	-0.58	0.40
loyal	-2.22	1.53	-1.44	.160	-5.37	0.94
loyal2	0.37	0.25	1.50	.146	-0.14	0.89
affect	0.79	1.42	0.56	.582	-2.13	3.72
affect2	-0.05	0.24	-0.22	.824	-0.55	0.44
respect	2.37	1.39	1.71	.099	-0.48	5.22
respect2	-0.28	0.23	-1.23	.228	-0.76	0.19
network	1.43	1.49	0.96	.346	-1.63	4.48
network2	-0.21	0.24	-0.87	.394	-0.71	0.29

Note. $F_{(10, 26)} = 23.40$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A122.2

Case 122 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	B
contribution	0.34	0.27	1.28	.209	0.19
loyal	0.18	0.28	0.63	.536	0.10
affect	0.62	0.27	2.30	.028	0.35
respect	0.75	0.26	2.87	.007	0.42
network	0.26	0.29	0.91	.369	0.13

Note. $F_{(5, 31)} = 47.03$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .87$

Case 122 Observed Judgment Policy of School Building Leader Effectiveness

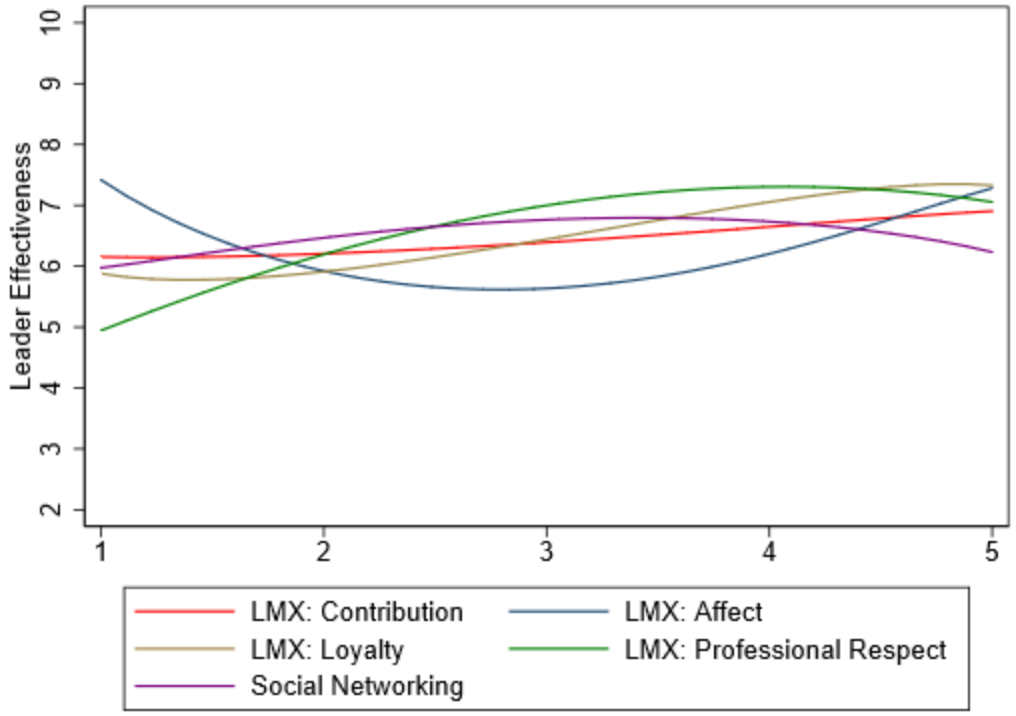


Figure A122.1. Judgment policy by leadership quality for Case 122 based on observed leader-effectiveness scores.

Case 122 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

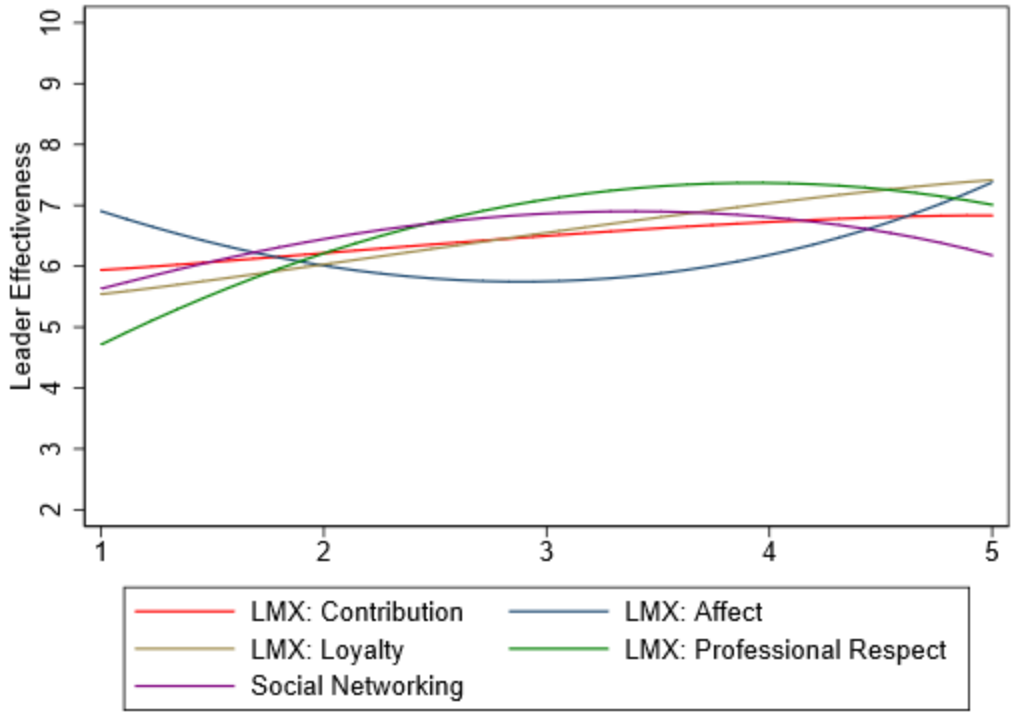


Figure A122.2. Judgment policy by leadership quality for Case 122 based on predicted leader-effectiveness scores from quadric regression.

Table A123.1

Case 123 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.19	1.55	0.12	.904	-3.00	3.38
contribution2	0.00	0.26	0.01	.993	-0.53	0.54
loyal	-1.93	1.66	-1.17	.255	-5.34	1.48
loyal2	0.34	0.27	1.26	.218	-0.21	0.89
affect	-0.12	1.54	-0.08	.939	-3.28	3.04
affect2	0.04	0.26	0.16	.875	-0.49	0.57
respect	2.97	1.50	1.98	.058	-0.11	6.05
respect2	-0.29	0.25	-1.16	.257	-0.80	0.22
network	0.49	1.61	0.30	.763	-2.81	3.79
network2	-0.01	0.26	-0.05	.962	-0.55	0.52

Note. $F_{(10, 26)} = 16.71$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .81$

Table A123.2

Case 123 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.16	0.28	0.59	.560	0.08
loyal	0.12	0.30	0.40	.689	0.05
affect	0.11	0.28	0.38	.707	0.05
respect	1.14	0.27	4.18	.000	0.53
network	0.37	0.30	1.21	.234	0.16

Note. $F_{(5, 31)} = 35.30$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .83$

Case 123 Observed Judgment Policy of School Building Leader Effectiveness

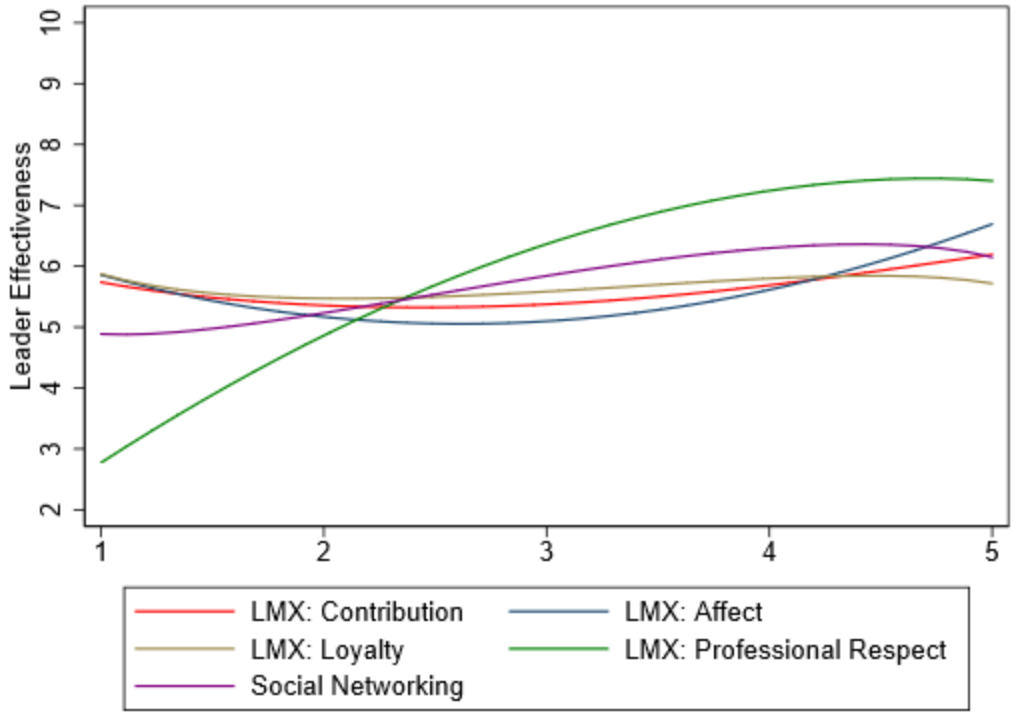


Figure A123.1. Judgment policy by leadership quality for Case 123 based on observed leader-effectiveness scores.

Case 123 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

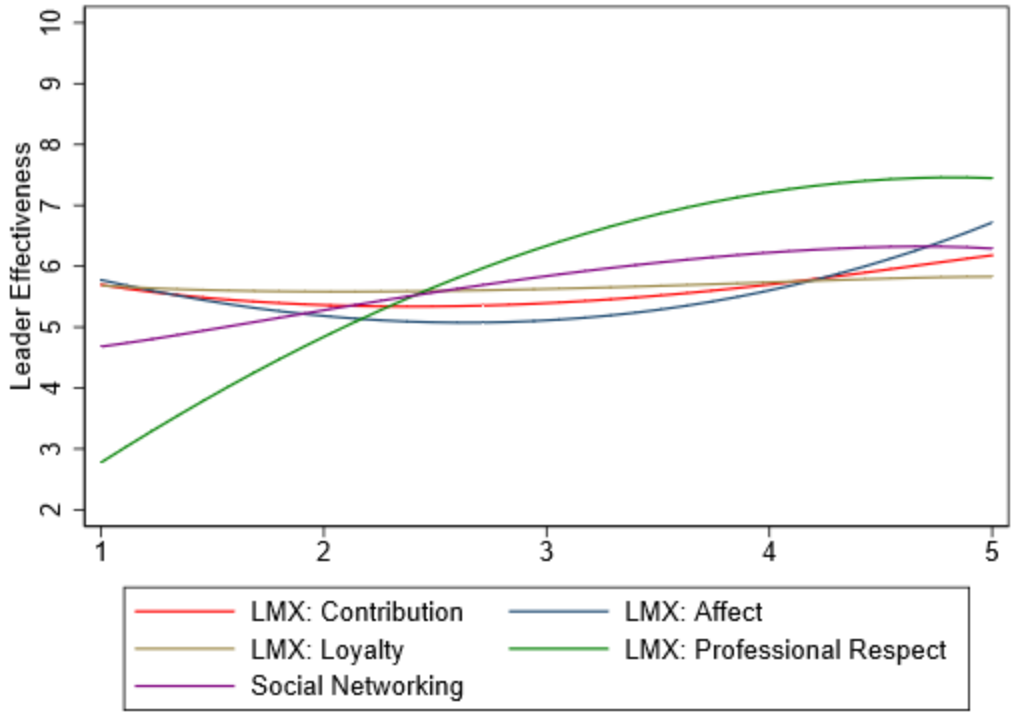


Figure A123.2. Judgment policy by leadership quality for Case 123 based on predicted leader-effectiveness scores from quadric regression.

Table A124.1

Case 124 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.17	1.62	-0.11	.915	-3.49	3.15
contribution2	0.06	0.27	0.23	.822	-0.49	0.62
loyal	1.29	1.73	0.74	.463	-2.26	4.83
loyal2	-0.10	0.28	-0.35	.732	-0.67	0.48
affect	2.87	1.60	1.79	.085	-0.42	6.16
affect2	-0.48	0.27	-1.80	.084	-1.04	0.07
respect	1.24	1.56	0.80	.433	-1.96	4.45
respect2	-0.13	0.26	-0.52	.609	-0.66	0.40
network	-1.90	1.67	-1.14	.267	-5.34	1.54
network2	0.25	0.27	0.92	.364	-0.31	0.81

Note. $F_{(10, 26)} = 13.74$ ($p < .001$), $R^2 = .84$, Adjusted $R^2 = .78$

Table A124.2

Case 124 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.27	0.30	0.88	.385	0.14
loyal	0.83	0.32	2.55	.016	0.41
affect	0.18	0.31	0.58	.567	0.09
respect	0.65	0.30	2.20	.036	0.33
network	-0.15	0.33	-0.46	.649	-0.07

Note. $F_{(5, 31)} = 26.09$ ($p < .001$), $R^2 = .81$, Adjusted $R^2 = .78$

Case 124 Observed Judgment Policy of School Building Leader Effectiveness

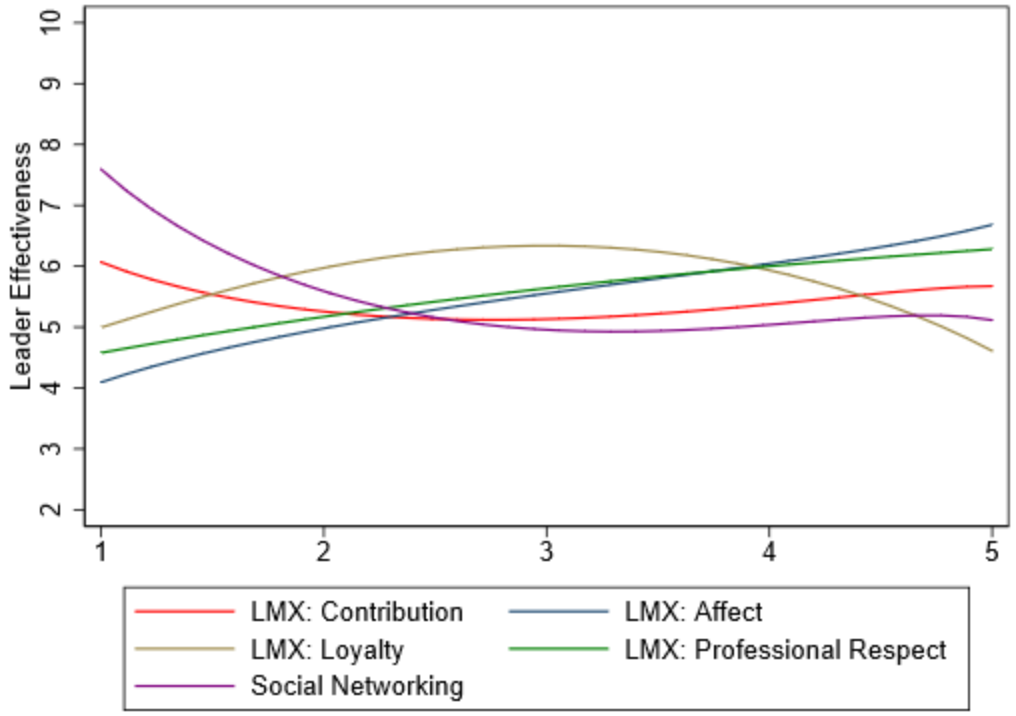


Figure A124.1. Judgment policy by leadership quality for Case 124 based on observed leader-effectiveness scores.

Case 124 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

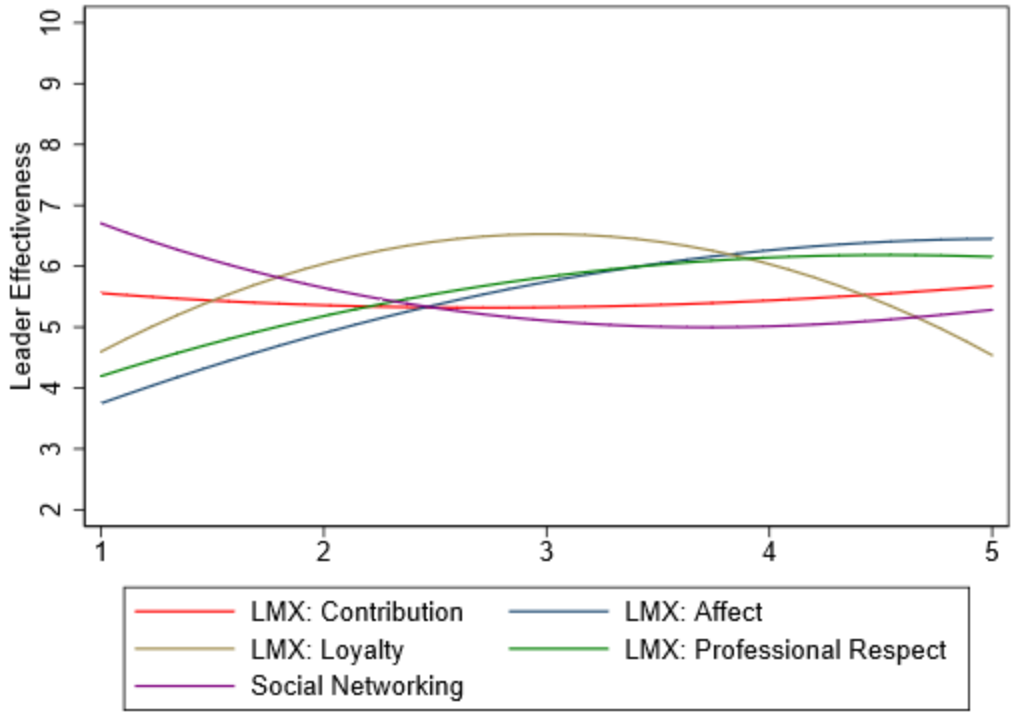


Figure A124.2. Judgment policy by leadership quality for Case 124 based on predicted leader-effectiveness scores from quadric regression.

Table A125.1

Case 125 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.81	1.23	0.66	.516	-1.72	3.34
contribution2	-0.09	0.21	-0.46	.651	-0.52	0.33
loyal	0.38	1.31	0.29	.774	-2.32	3.08
loyal2	0.04	0.21	0.21	.835	-0.39	0.48
affect	1.34	1.22	1.10	.282	-1.17	3.85
affect2	-0.25	0.20	-1.22	.232	-0.67	0.17
respect	0.83	1.19	0.70	.493	-1.62	3.27
respect2	-0.11	0.20	-0.57	.573	-0.52	0.29
network	0.60	1.27	0.47	.642	-2.02	3.22
network2	-0.10	0.21	-0.49	.630	-0.53	0.32

Note. $F_{(10, 26)} = 29.51$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A125.2

Case 125 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.43	0.23	1.86	.072	0.30
loyal	0.85	0.25	3.43	.002	0.57
affect	0.09	0.24	0.40	.694	0.07
respect	0.41	0.23	1.80	.082	0.29
network	0.23	0.25	0.91	.372	0.15

Note. $F_{(5, 31)} = 56.71$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 125 Observed Judgment Policy of School Building Leader Effectiveness

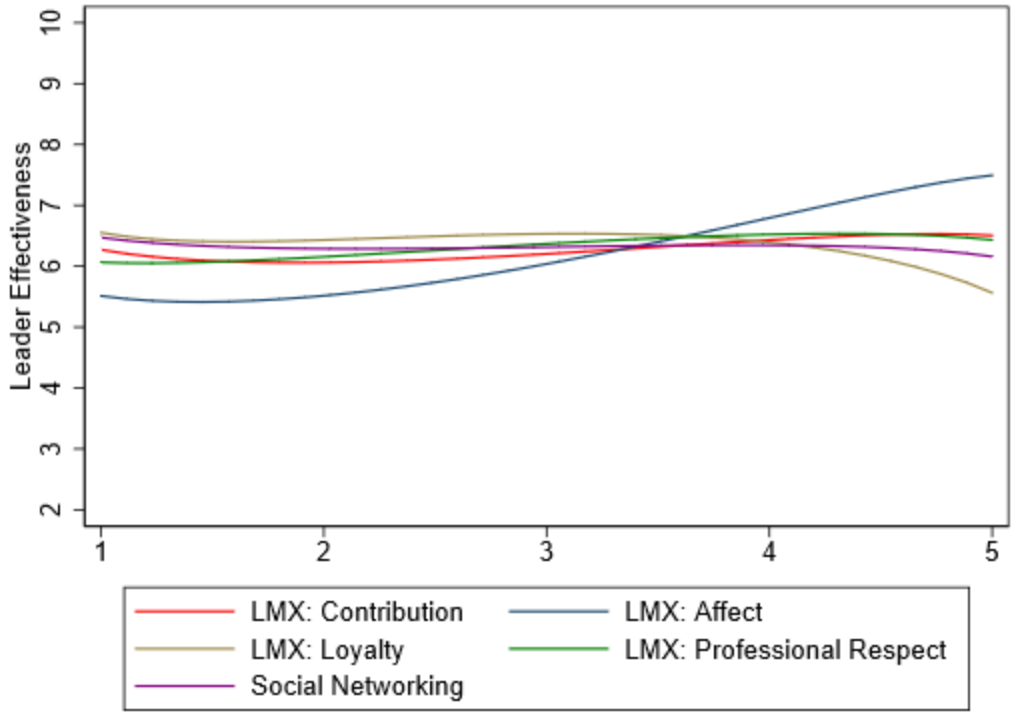


Figure A125.1. Judgment policy by leadership quality for Case 125 based on observed leader-effectiveness scores.

Case 125 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

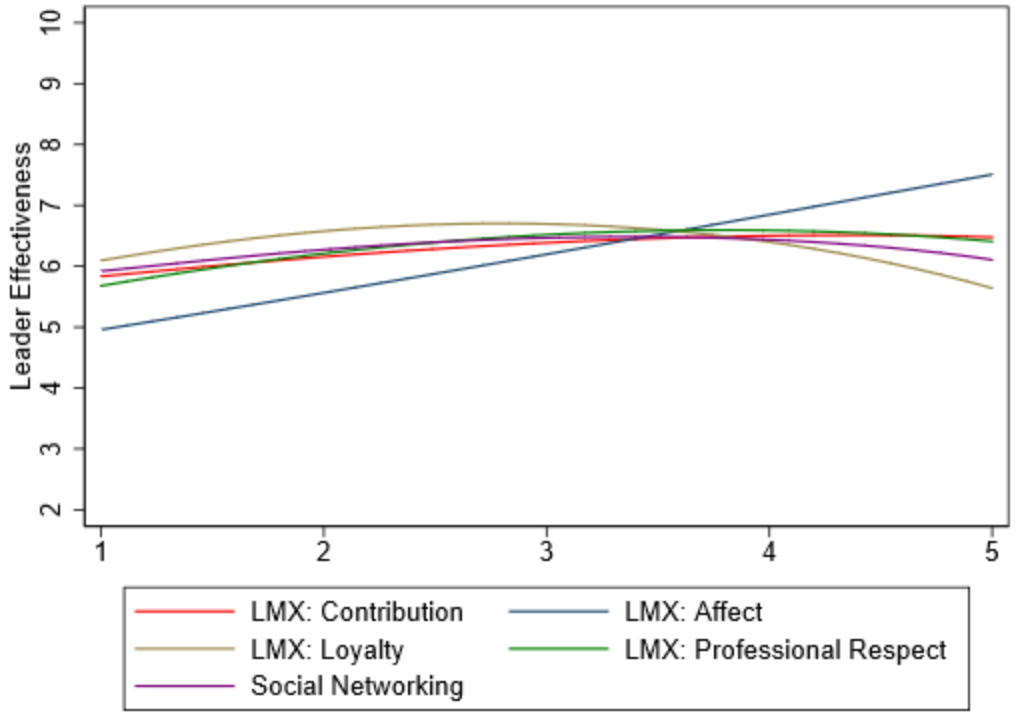


Figure A125.2. Judgment policy by leadership quality for Case 125 based on predicted leader-effectiveness scores from quadric regression.

Table A126.1

Case 126 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.40	1.03	-0.38	.704	-2.51	1.72
contribution2	0.10	0.17	0.60	.556	-0.25	0.46
loyal	-2.28	1.10	-2.07	.049	-4.54	-0.02
loyal2	0.39	0.18	2.17	.040	0.02	0.75
affect	0.54	1.02	0.53	.602	-1.56	2.64
affect2	-0.08	0.17	-0.45	.659	-0.43	0.28
respect	2.37	0.99	2.39	.025	0.33	4.41
respect2	-0.18	0.16	-1.11	.279	-0.52	0.16
network	0.74	1.07	0.69	.494	-1.45	2.93
network2	-0.06	0.17	-0.32	.753	-0.41	0.30

Note. $F_{(10, 26)} = 29.00$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A126.2

Case 126 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.20	0.69	.493	0.08
loyal	0.02	0.21	0.08	.934	0.01
affect	0.02	0.20	0.08	.933	0.01
respect	1.15	0.19	5.91	.000	0.64
network	0.32	0.22	1.47	.150	0.16

Note. $F_{(5, 31)} = 53.16$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 126 Observed Judgment Policy of School Building Leader Effectiveness

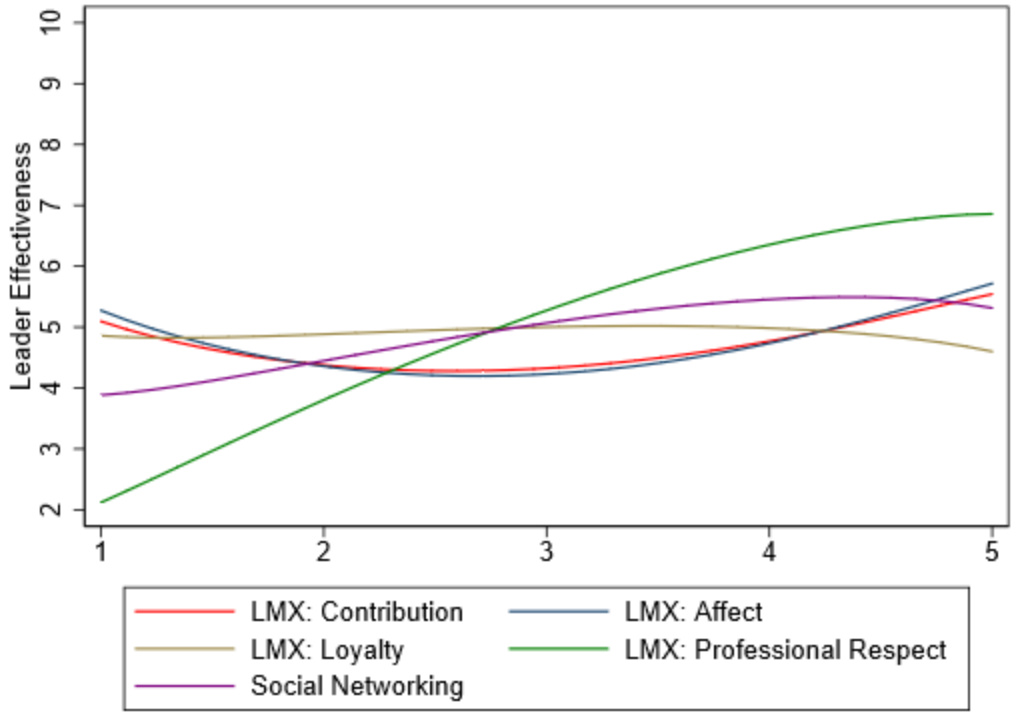


Figure A126.1. Judgment policy by leadership quality for Case 126 based on observed leader-effectiveness scores.

Case 126 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

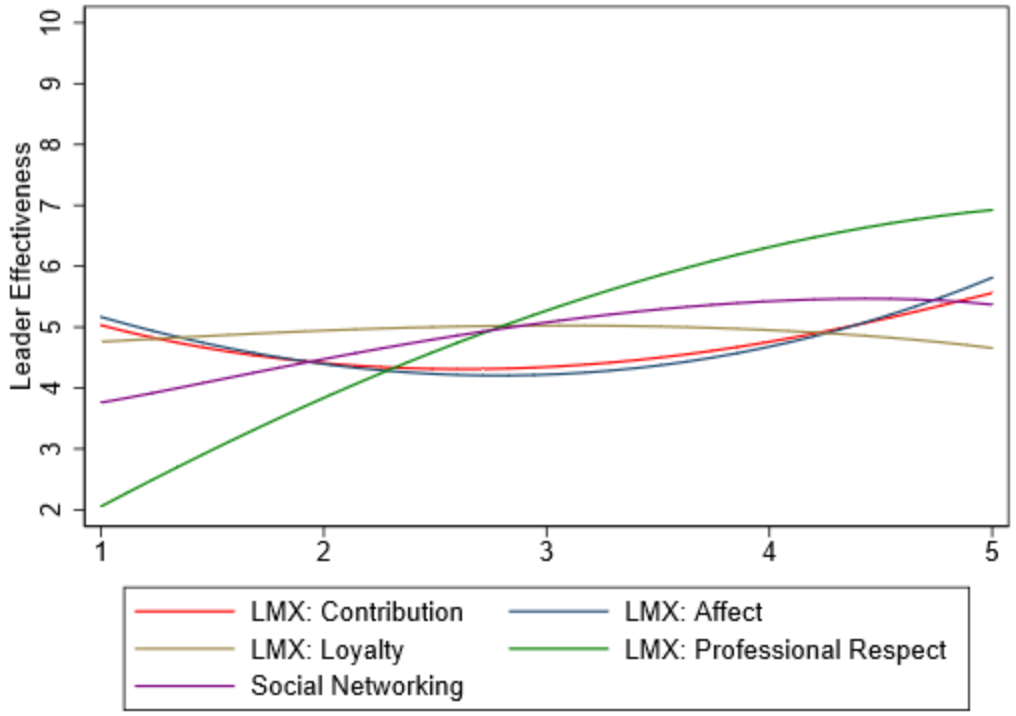


Figure A126.2. Judgment policy by leadership quality for Case 126 based on predicted leader-effectiveness scores from quadric regression.

Table A127.1

Case 127 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.52	1.06	0.49	.626	-1.65	2.70
contribution2	-0.06	0.18	-0.35	.733	-0.42	0.30
loyal	-0.79	1.13	-0.70	.493	-3.11	1.54
loyal2	0.16	0.18	0.89	.381	-0.21	0.54
affect	1.56	1.05	1.48	.150	-0.60	3.71
affect2	-0.26	0.18	-1.46	.155	-0.62	0.10
respect	0.94	1.02	0.93	.363	-1.15	3.04
respect2	-0.10	0.17	-0.60	.555	-0.45	0.25
network	0.81	1.10	0.74	.466	-1.44	3.06
network2	-0.08	0.18	-0.45	.658	-0.45	0.29

Note. $F_{(10, 26)} = 29.86$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A127.2

Case 127 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.27	0.20	1.37	.180	0.22
loyal	0.33	0.21	1.59	.123	0.26
affect	0.19	0.20	0.95	.350	0.15
respect	0.49	0.19	2.54	.016	0.39
network	0.49	0.21	2.27	.030	0.35

Note. $F_{(5, 31)} = 59.17$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 127 Observed Judgment Policy of School Building Leader Effectiveness

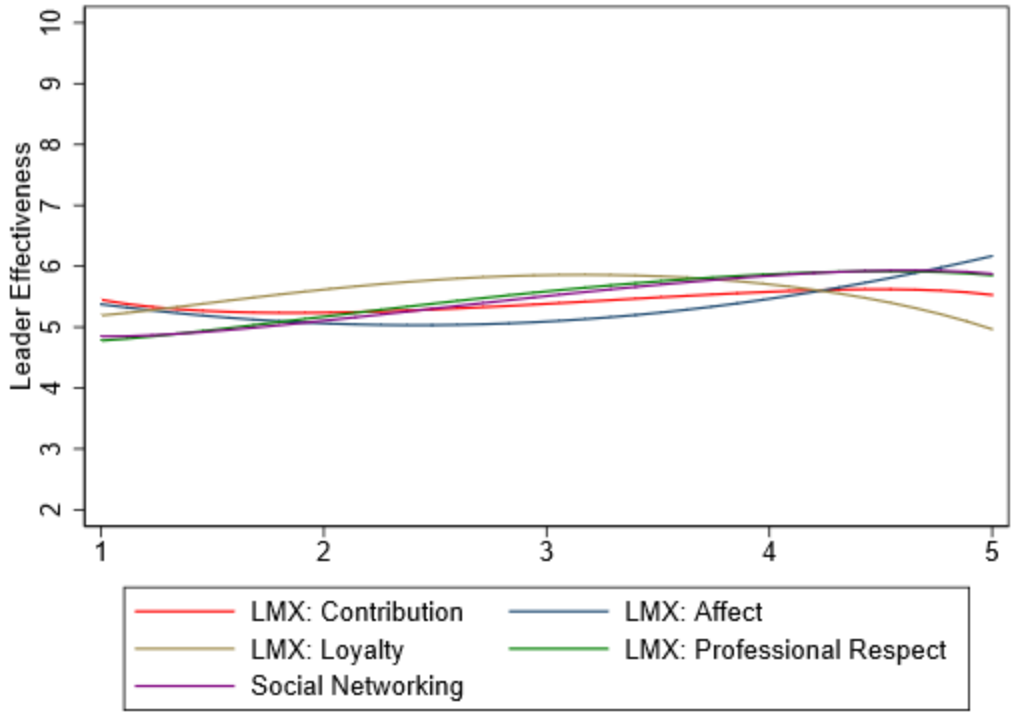


Figure A127.1. Judgment policy by leadership quality for Case 127 based on observed leader-effectiveness scores.

Case 127 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

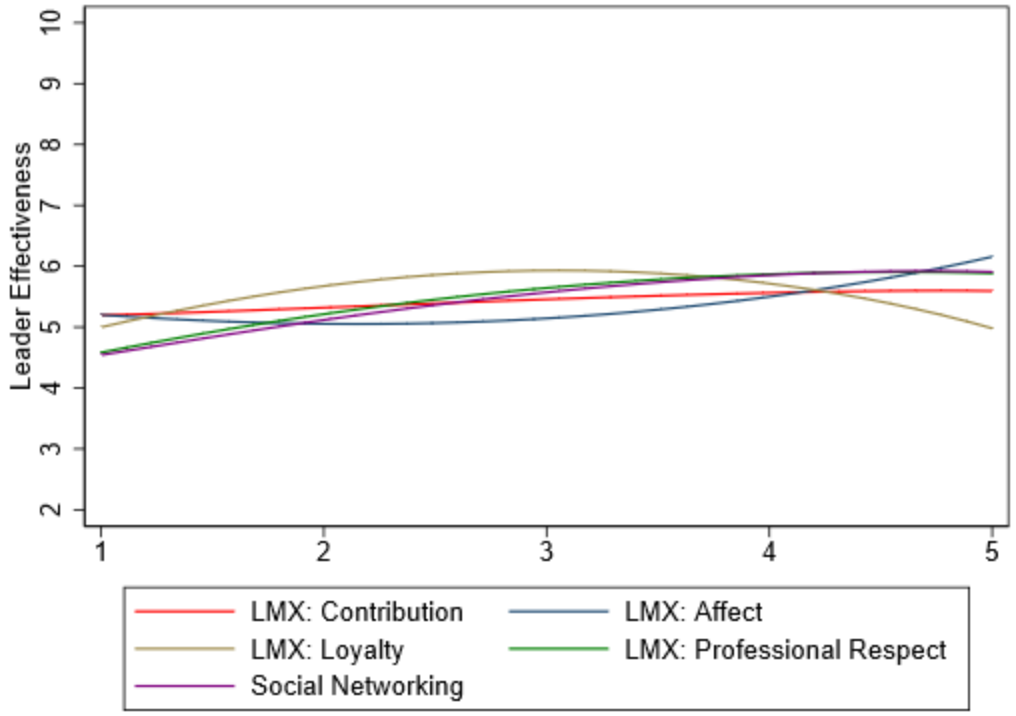


Figure A127.2. Judgment policy by leadership quality for Case 127 based on predicted leader-effectiveness scores from quadric regression.

Table A128.1

Case 128 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	*LL*	*UL*
contribution	-0.12	1.19	-0.10	.918	-2.56	2.32
contribution2	0.04	0.20	0.19	.848	-0.37	0.45
loyal	-2.03	1.27	-1.60	.122	-4.64	0.58
loyal2	0.41	0.21	1.98	.058	-0.01	0.83
affect	1.74	1.18	1.48	.152	-0.68	4.16
affect2	-0.29	0.20	-1.46	.156	-0.70	0.12
respect	1.70	1.15	1.48	.150	-0.65	4.06
respect2	-0.15	0.19	-0.77	.450	-0.54	0.24
network	0.99	1.23	0.81	.426	-1.53	3.52
network2	-0.11	0.20	-0.57	.574	-0.52	0.30

Note. $F_{(10, 26)} = 27.97$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .88$

Table A128.2

Case 128 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	B
contribution	0.12	0.22	0.56	.581	0.07
loyal	0.49	0.24	2.06	.048	0.27
affect	0.08	0.23	0.37	.715	0.05
respect	0.84	0.22	3.83	.001	0.48
network	0.35	0.24	1.44	.160	0.18

Note. $F_{(5, 31)} = 53.64$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 128 Observed Judgment Policy of School Building Leader Effectiveness

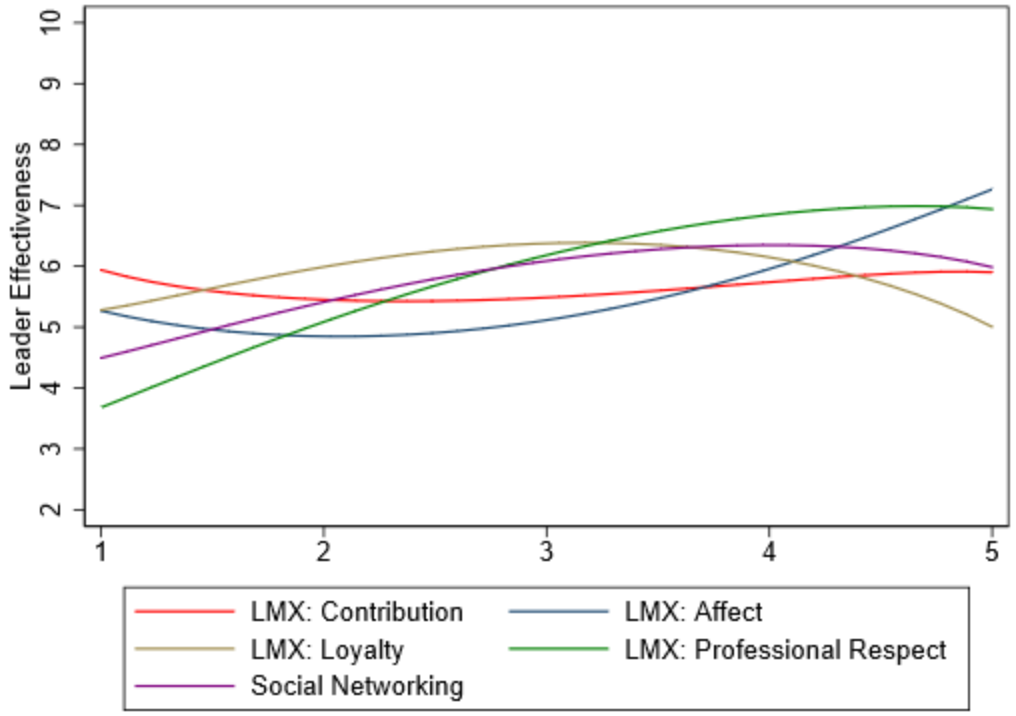


Figure A128.1. Judgment policy by leadership quality for Case 128 based on observed leader-effectiveness scores.

Case 128 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

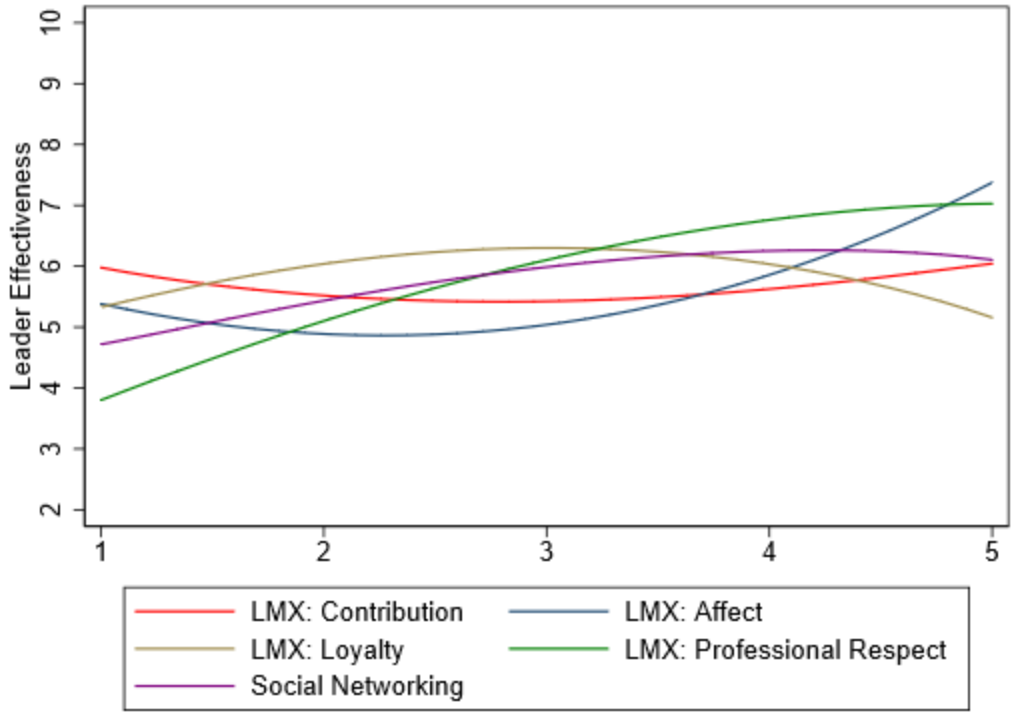


Figure A128.2. Judgment policy by leadership quality for Case 128 based on predicted leader-effectiveness scores from quadric regression.

Table A129.1

Case 129 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.23	1.09	-0.21	.834	-2.47	2.01
contribution2	0.10	0.18	0.53	.601	-0.28	0.47
loyal	-1.30	1.17	-1.12	.275	-3.70	1.10
loyal2	0.27	0.19	1.41	.171	-0.12	0.66
affect	1.82	1.08	1.68	.104	-0.40	4.05
affect2	-0.28	0.18	-1.55	.133	-0.66	0.09
respect	1.91	1.05	1.82	.081	-0.25	4.08
respect2	-0.07	0.17	-0.40	.695	-0.43	0.29
network	-0.11	1.13	-0.10	.924	-2.43	2.21
network2	-0.04	0.18	-0.22	.831	-0.42	0.34

Note. $F_{(10, 26)} = 38.19$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A129.2

Case 219 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.33	0.20	1.64	.110	0.16
loyal	0.33	0.21	1.52	.139	0.15
affect	0.16	0.20	0.81	.425	0.08
respect	1.50	0.20	7.63	.000	0.74
network	-0.33	0.22	-1.52	.139	-0.15

Note. $F_{(5, 31)} = 78.07$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 129 Observed Judgment Policy of School Building Leader Effectiveness

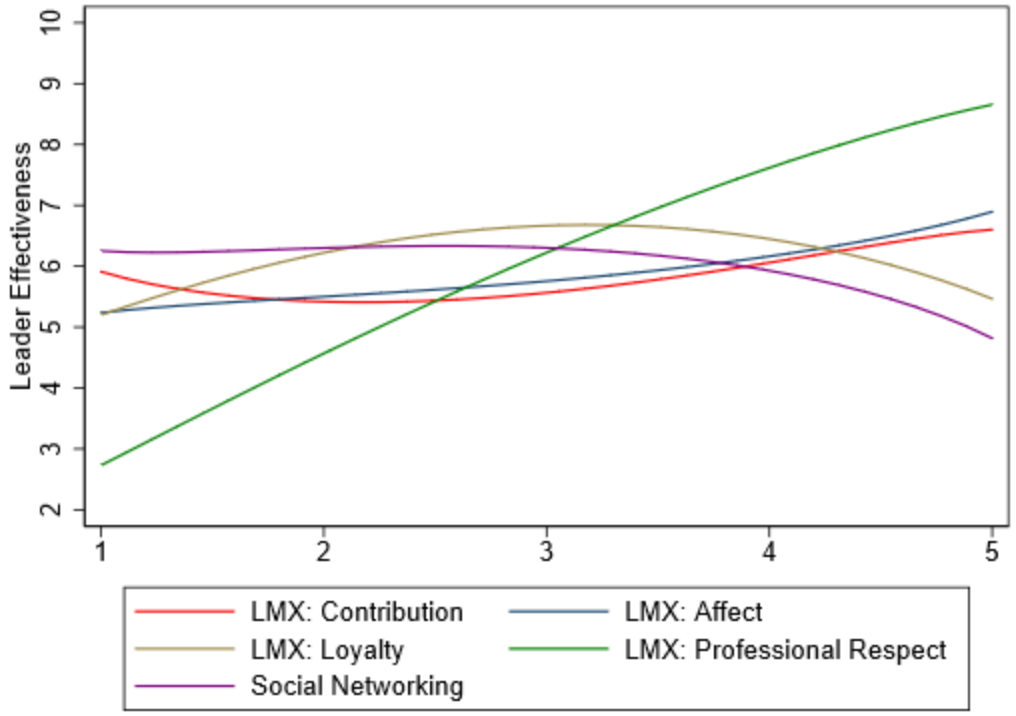


Figure A129.1. Judgment policy by leadership quality for Case 129 based on observed leader-effectiveness scores.

Case 129 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

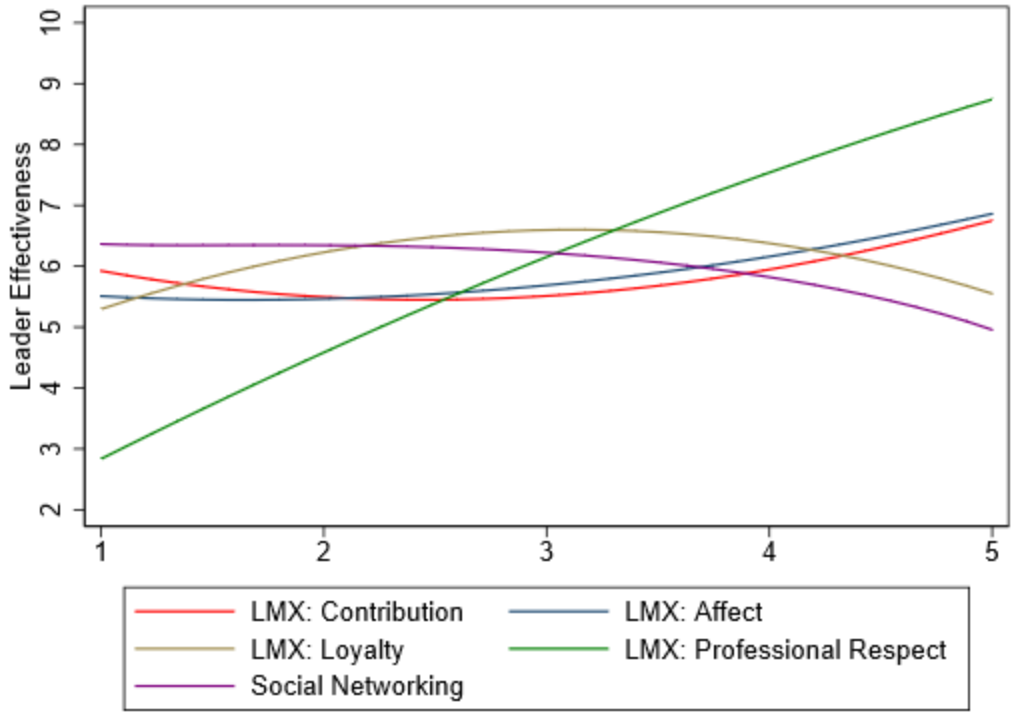


Figure A129.2. Judgment policy by leadership quality for Case 129 based on predicted leader-effectiveness scores from quadric regression.

Table A130.1

Case 130 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.13	0.95	-0.13	.896	-2.09	1.84
contribution2	0.05	0.16	0.34	.737	-0.27	0.38
loyal	-2.08	1.02	-2.04	.052	-4.17	0.02
loyal2	0.34	0.17	2.08	.048	0.00	0.68
affect	1.16	0.95	1.23	.231	-0.78	3.11
affect2	-0.19	0.16	-1.19	.246	-0.52	0.14
respect	1.32	0.92	1.43	.165	-0.58	3.21
respect2	-0.05	0.15	-0.34	.738	-0.37	0.26
network	1.78	0.99	1.80	.083	-0.25	3.81
network2	-0.19	0.16	-1.18	.248	-0.52	0.14

Note. $F_{(10, 26)} = 45.39$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A130.2

Case 130 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.21	0.18	1.17	.252	0.13
loyal	0.03	0.19	0.15	.880	0.02
affect	0.07	0.18	0.35	.725	0.04
respect	1.00	0.18	5.67	.000	0.63
network	0.64	0.20	3.24	.003	0.36

Note. $F_{(5, 31)} = 87.39$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 130 Observed Judgment Policy of School Building Leader Effectiveness

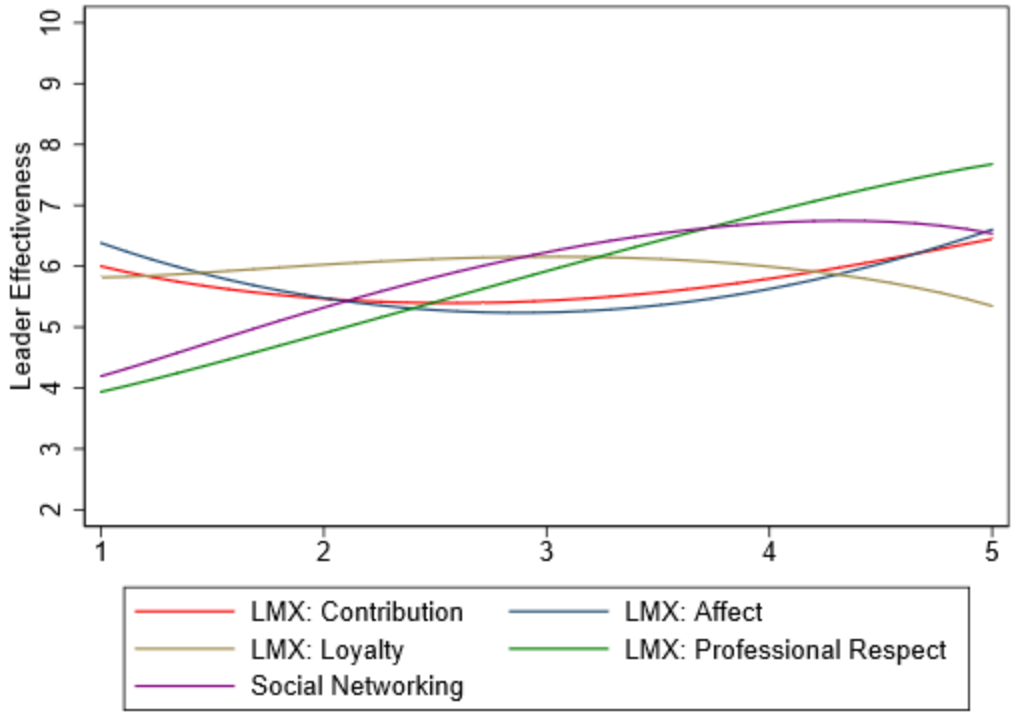


Figure A130.1. Judgment policy by leadership quality for Case 130 based on observed leader-effectiveness scores.

Case 130 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

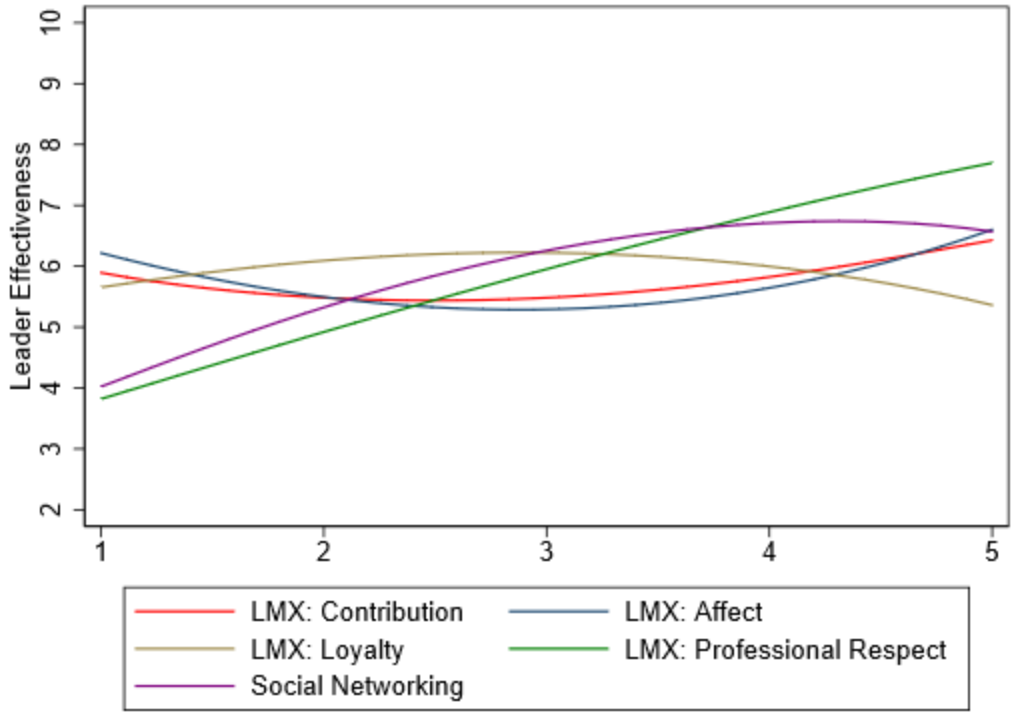


Figure A130.2. Judgment policy by leadership quality for Case 130 based on predicted leader-effectiveness scores from quadric regression.

Table A131.1

Case 131 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.13	1.22	-0.92	.364	-3.64	1.38
contribution2	0.21	0.20	1.05	.303	-0.21	0.63
loyal	-0.65	1.31	-0.50	.622	-3.34	2.03
loyal2	0.13	0.21	0.62	.544	-0.31	0.57
affect	1.68	1.21	1.39	.177	-0.81	4.17
affect2	-0.28	0.20	-1.40	.174	-0.70	0.13
respect	1.16	1.18	0.98	.334	-1.27	3.59
respect2	-0.15	0.20	-0.77	.448	-0.55	0.25
network	2.06	1.27	1.62	.116	-0.55	4.66
network2	-0.27	0.21	-1.31	.201	-0.69	0.15

Note. $F_{(10, 26)} = 22.93$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A131.2

Case 131 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.29	0.23	1.24	.224	0.20
loyal	0.29	0.25	1.18	.247	0.20
affect	0.15	0.24	0.64	.529	0.11
respect	0.47	0.23	2.07	.047	0.33
network	0.57	0.25	2.26	.031	0.36

Note. $F_{(5, 31)} = 42.82$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 131 Observed Judgment Policy of School Building Leader Effectiveness

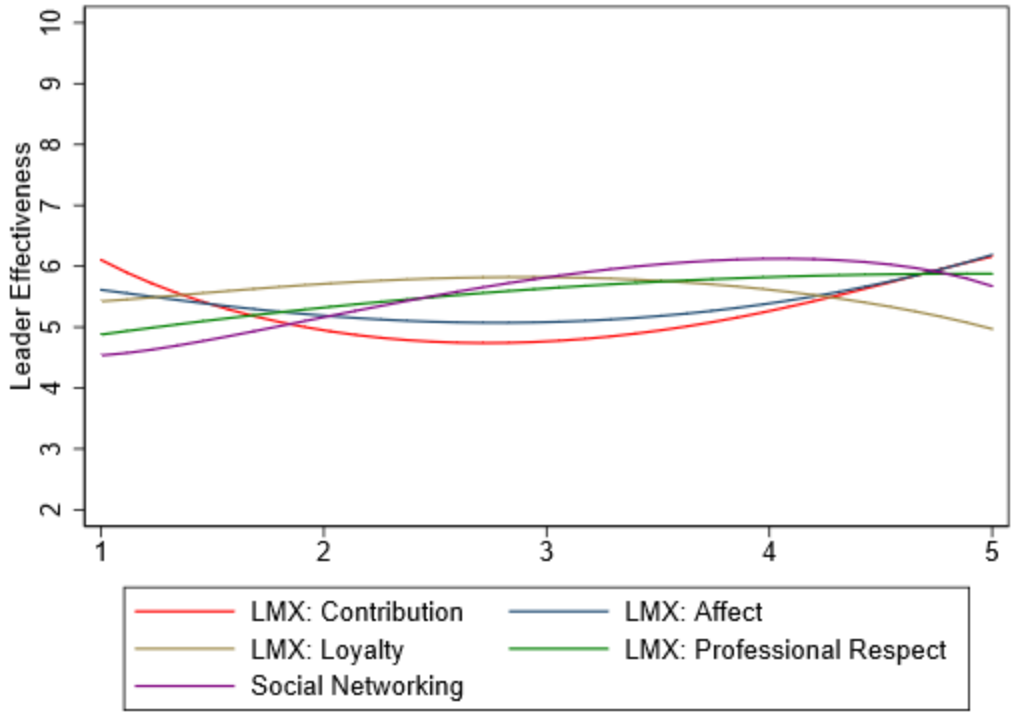


Figure A131.1. Judgment policy by leadership quality for Case 131 based on observed leader-effectiveness scores.

Case 131 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

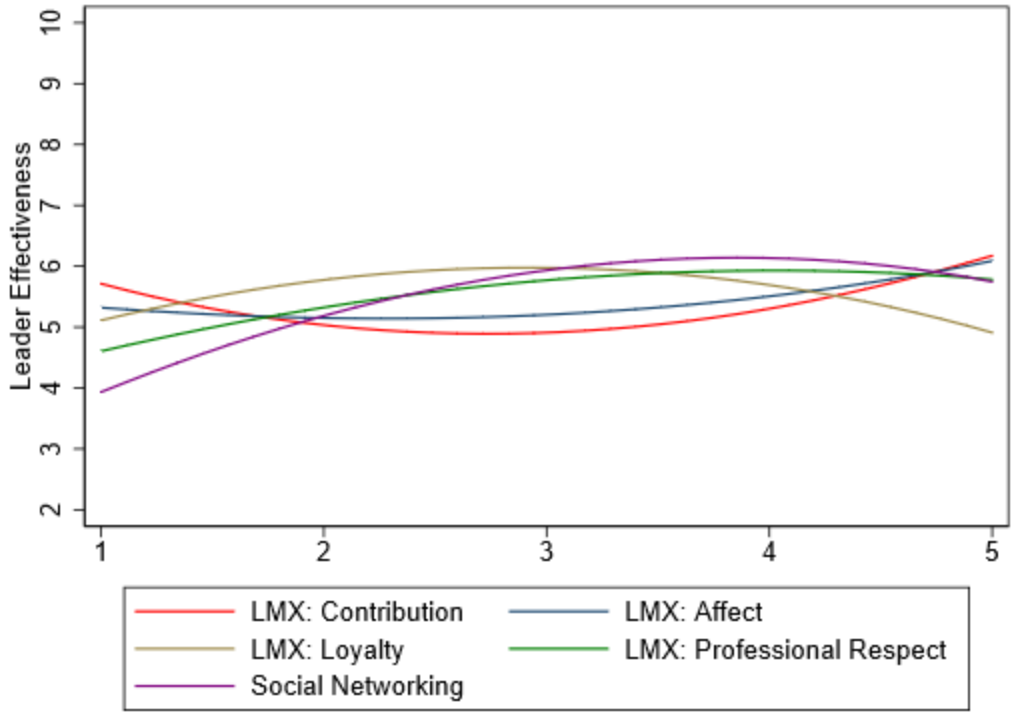


Figure A131.2. Judgment policy by leadership quality for Case 131 based on predicted leader-effectiveness scores from quadric regression.

Table A132.1

Case 132 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.41	1.08	-0.38	.707	-2.62	1.80
contribution2	0.06	0.18	0.32	.755	-0.31	0.43
loyal	-1.14	1.15	-0.99	.332	-3.50	1.23
loyal2	0.24	0.19	1.31	.203	-0.14	0.63
affect	0.53	1.07	0.50	.621	-1.66	2.73
affect2	-0.13	0.18	-0.71	.483	-0.50	0.24
respect	1.62	1.04	1.56	.131	-0.52	3.76
respect2	-0.07	0.17	-0.42	.677	-0.43	0.28
network	1.97	1.12	1.77	.088	-0.32	4.27
network2	-0.25	0.18	-1.38	.178	-0.62	0.12

Note. $F_{(10, 26)} = 40.56$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A132.2

Case 132 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.00	0.20	0.01	.994	0.00
loyal	0.41	0.21	1.97	.058	0.21
affect	-0.15	0.20	-0.74	.463	-0.08
respect	1.25	0.19	6.50	.000	0.67
network	0.51	0.21	2.37	.024	0.25

Note. $F_{(5, 31)} = 83.81$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 132 Observed Judgment Policy of School Building Leader Effectiveness

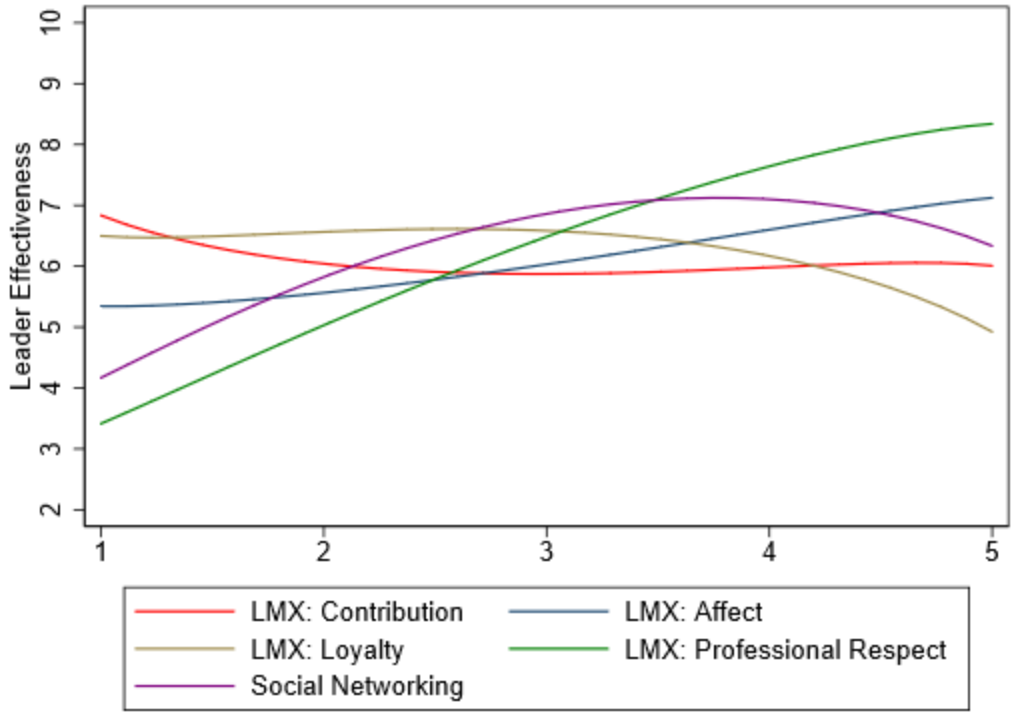


Figure A132.1. Judgment policy by leadership quality for Case 132 based on observed leader-effectiveness scores.

Case 132 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

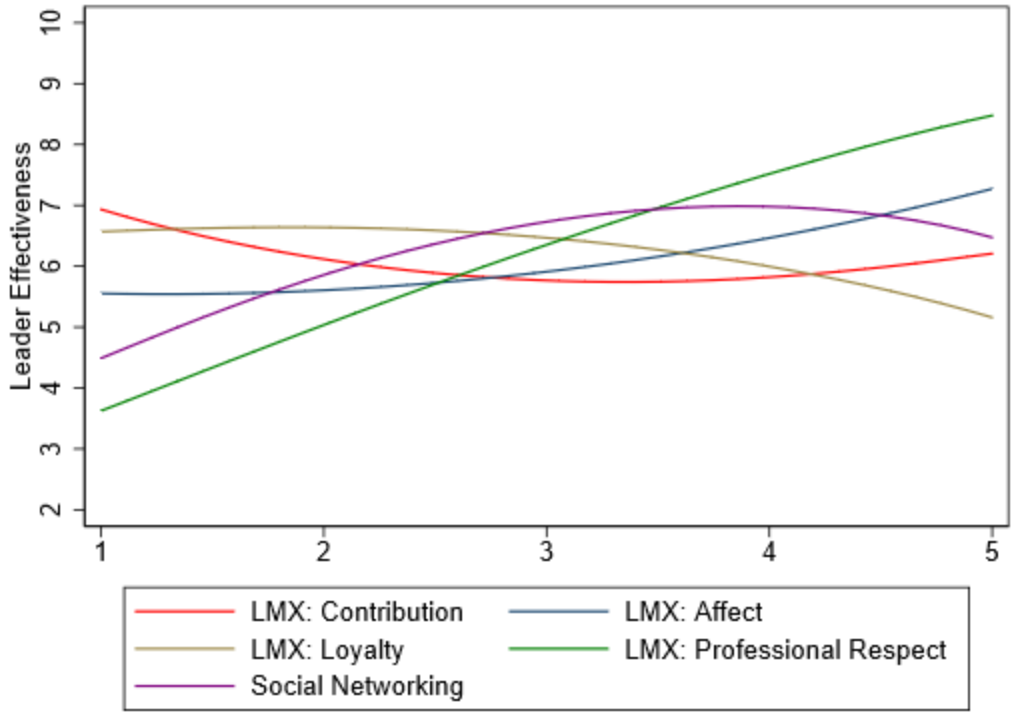


Figure A132.2. Judgment policy by leadership quality for Case 132 based on predicted leader-effectiveness scores from quadric regression.

Table A133.1

Case 133 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.09	1.39	-0.06	.952	-2.95	2.78
contribution2	0.10	0.23	0.41	.682	-0.38	0.58
loyal	-1.30	1.49	-0.87	.391	-4.36	1.76
loyal2	0.23	0.24	0.95	.352	-0.27	0.73
affect	1.38	1.38	1.00	.327	-1.46	4.22
affect2	-0.14	0.23	-0.62	.541	-0.62	0.33
respect	1.72	1.35	1.28	.213	-1.05	4.49
respect2	-0.12	0.22	-0.52	.609	-0.57	0.34
network	0.53	1.44	0.37	.716	-2.44	3.50
network2	-0.11	0.23	-0.49	.631	-0.60	0.37

Note. $F_{(10, 26)} = 23.40$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A133.2

Case 133 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.50	0.25	2.04	.050	0.26
loyal	0.12	0.26	0.45	.654	0.06
affect	0.55	0.25	2.22	.034	0.29
respect	1.04	0.24	4.31	.000	0.54
network	-0.15	0.27	-0.54	.591	-0.07

Note. $F_{(5, 31)} = 52.17$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .88$

Case 133 Observed Judgment Policy of School Building Leader Effectiveness

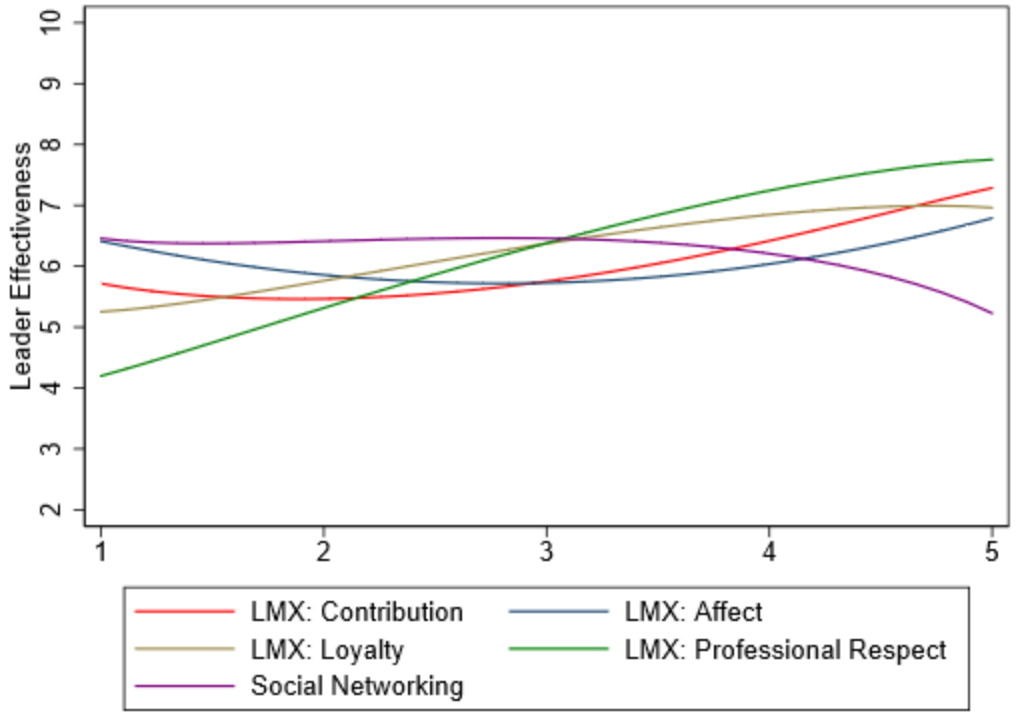


Figure A133.1. Judgment policy by leadership quality for Case 133 based on observed leader-effectiveness scores.

Case 133 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

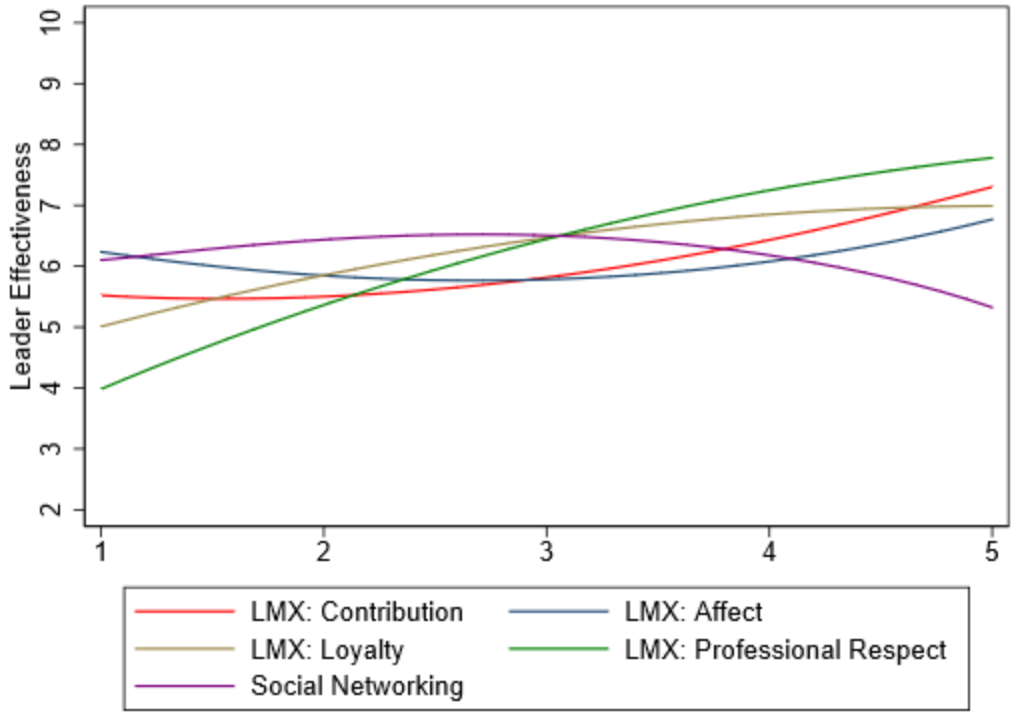


Figure A133.2. Judgment policy by leadership quality for Case 133 based on predicted leader-effectiveness scores from quadric regression.

Table A134.1

Case 134 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.06	0.62	-1.71	.099	-2.33	0.21
contribution2	0.17	0.10	1.65	.111	-0.04	0.38
loyal	-0.42	0.66	-0.64	.531	-1.78	0.94
loyal2	0.09	0.11	0.86	.399	-0.13	0.31
affect	0.39	0.61	0.64	.527	-0.87	1.66
affect2	-0.05	0.10	-0.53	.599	-0.27	0.16
respect	0.47	0.60	0.79	.438	-0.76	1.70
respect2	0.10	0.10	0.98	.337	-0.11	0.30
network	1.74	0.64	2.71	.012	0.42	3.06
network2	-0.14	0.10	-1.32	.200	-0.35	0.08

Note. $F_{(10, 26)} = 92.56$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A134.2

Case 134 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.10	0.12	-0.79	.433	-0.06
loyal	0.08	0.13	0.59	.557	0.05
affect	-0.02	0.12	-0.15	.878	-0.01
respect	0.99	0.12	8.45	.000	0.63
network	0.82	0.13	6.29	.000	0.47

Note. $F_{(5, 31)} = 171.18$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Case 134 Observed Judgment Policy of School Building Leader Effectiveness

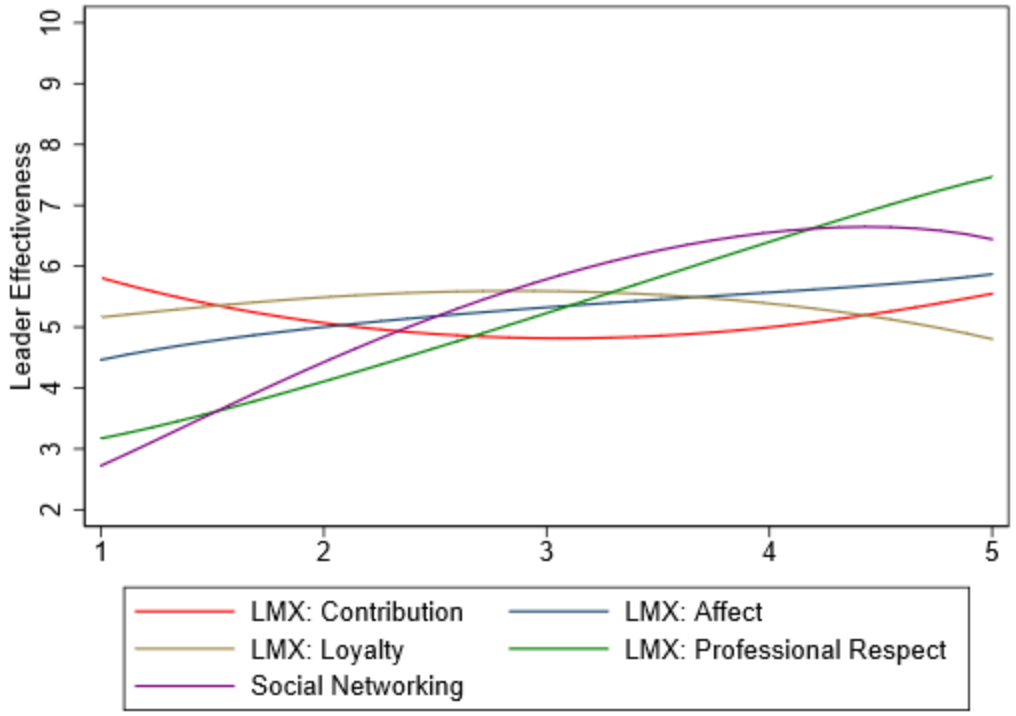


Figure A134.1. Judgment policy by leadership quality for Case 134 based on observed leader-effectiveness scores.

Case 134 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

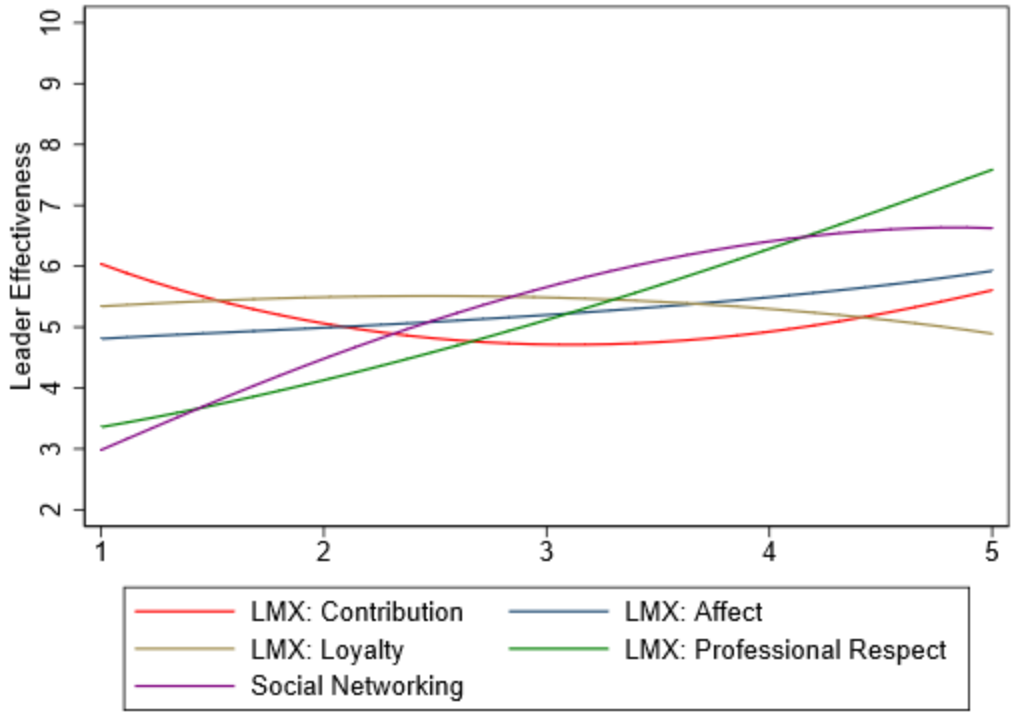


Figure A134.2. Judgment policy by leadership quality for Case 134 based on predicted leader-effectiveness scores from quadric regression.

Table A135.1

Case 135 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.10	0.96	-0.10	.919	-2.07	1.87
contribution2	0.01	0.16	0.07	.945	-0.32	0.34
loyal	-0.32	1.02	-0.32	.755	-2.43	1.78
loyal2	0.07	0.17	0.40	.690	-0.27	0.41
affect	1.52	0.95	1.60	.123	-0.44	3.47
affect2	-0.25	0.16	-1.57	.128	-0.58	0.08
respect	-0.47	0.92	-0.50	.618	-2.37	1.43
respect2	0.22	0.15	1.42	.168	-0.10	0.53
network	1.50	0.99	1.52	.141	-0.53	3.54
network2	-0.09	0.16	-0.58	.569	-0.42	0.24

Note. $F_{(10, 26)} = 45.99$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A135.2

Case 135 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.02	0.18	-0.11	.916	-0.01
loyal	0.08	0.19	0.44	.664	0.05
affect	0.04	0.18	0.24	.815	0.03
respect	0.88	0.17	5.10	.000	0.53
network	0.97	0.19	5.02	.000	0.53

Note. $F_{(5, 31)} = 93.52$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 135 Observed Judgment Policy of School Building Leader Effectiveness

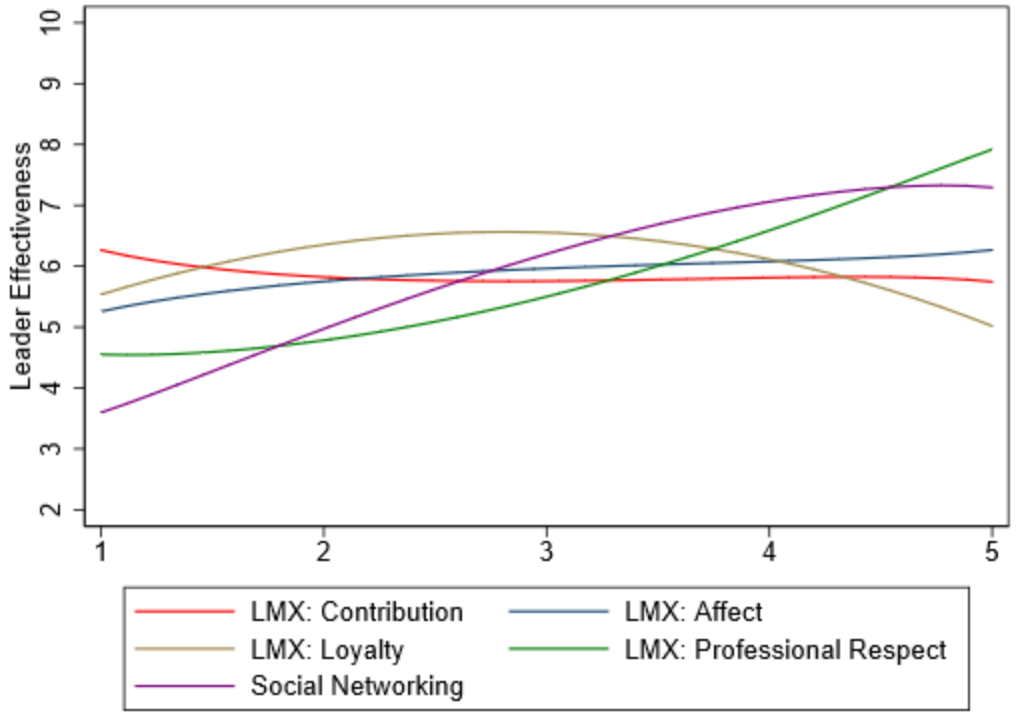


Figure A135.1. Judgment policy by leadership quality for Case 135 based on observed leader-effectiveness scores.

Case 135 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

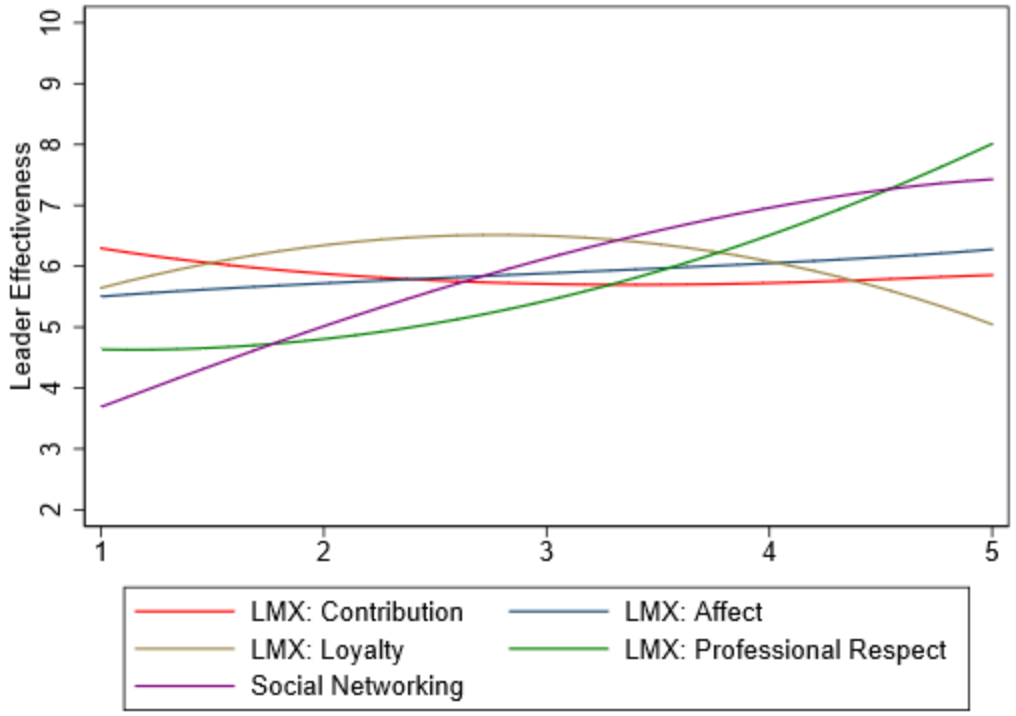


Figure A135.2. Judgment policy by leadership quality for Case 135 based on predicted leader-effectiveness scores from quadric regression.

Table A136.1

Case 136 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.12	0.73	0.17	.866	-1.37	1.62
contribution2	0.01	0.12	0.08	.933	-0.24	0.26
loyal	-1.26	0.78	-1.63	.116	-2.86	0.33
loyal2	0.22	0.13	1.73	.096	-0.04	0.48
affect	1.29	0.72	1.78	.086	-0.20	2.77
affect2	-0.24	0.12	-2.00	.056	-0.49	0.01
respect	0.51	0.70	0.73	.471	-0.93	1.96
respect2	-0.05	0.12	-0.44	.660	-0.29	0.19
network	3.11	0.75	4.12	.000	1.56	4.66
network2	-0.35	0.12	-2.82	.009	-0.60	-0.09

Note. $F_{(10, 26)} = 103.97$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A136.2

Case 136 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.36	0.16	2.23	.033	0.29
loyal	0.23	0.17	1.32	.197	0.17
affect	0.04	0.16	0.26	.793	0.03
respect	0.42	0.16	2.64	.013	0.33
network	1.19	0.18	6.77	.000	0.86

Note. $F_{(5, 31)} = 144.90$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 136 Observed Judgment Policy of School Building Leader Effectiveness

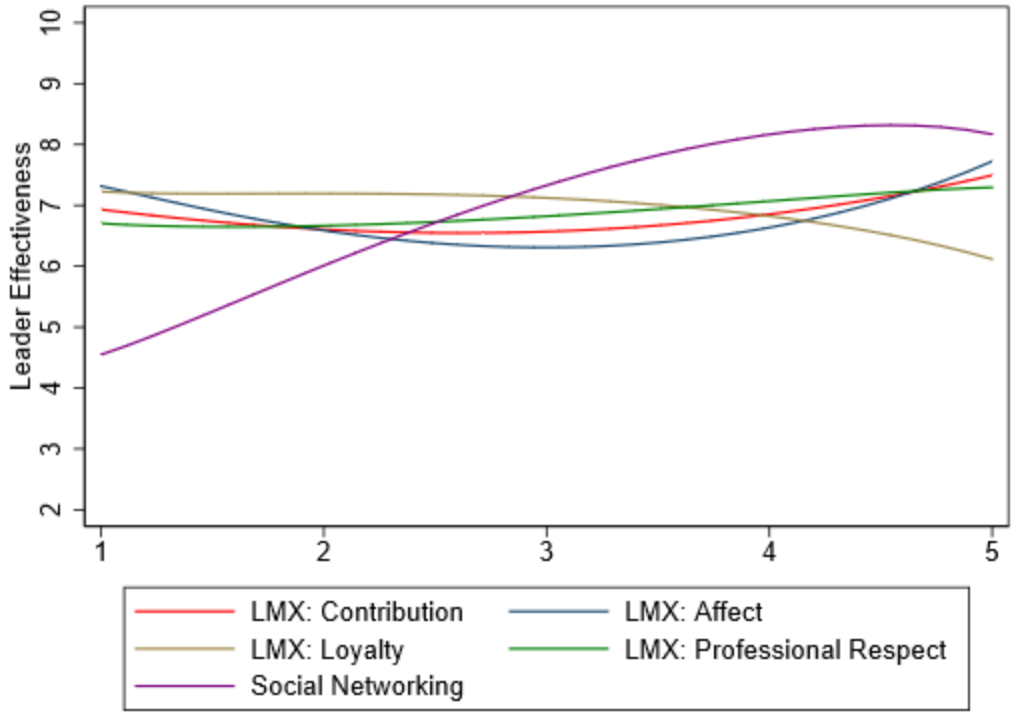


Figure A136.1. Judgment policy by leadership quality for Case 136 based on observed leader-effectiveness scores.

Case 136 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

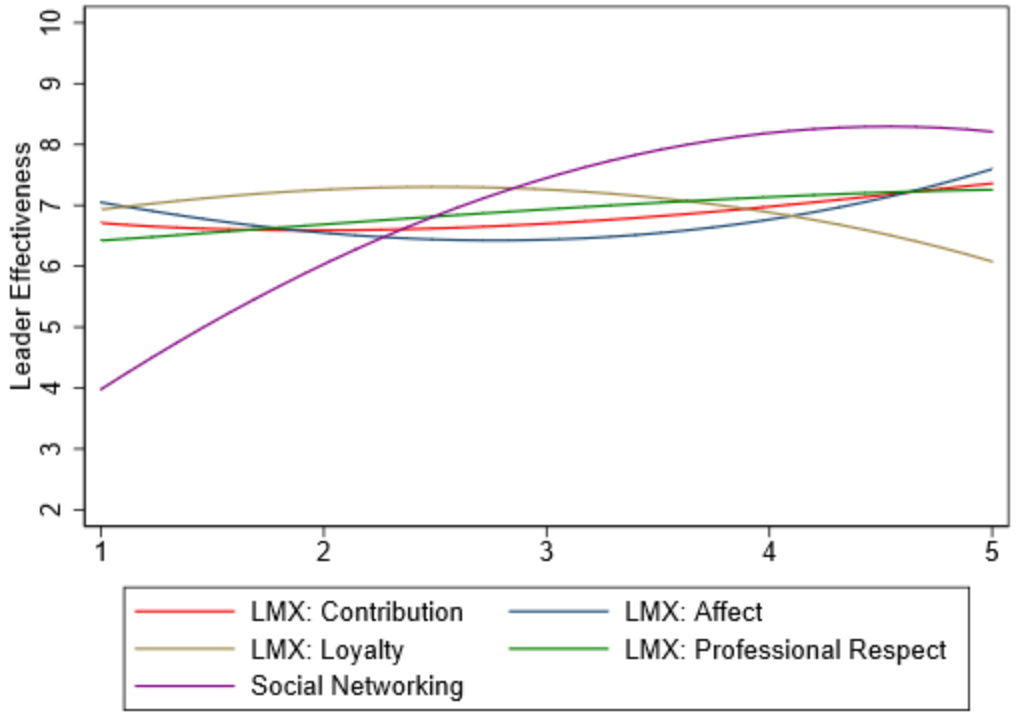


Figure A136.2. Judgment policy by leadership quality for Case 136 based on predicted leader-effectiveness scores from quadric regression.

Table A137.1

Case 137 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.66	1.02	-0.65	.524	-2.76	1.44
contribution2	0.10	0.17	0.60	.557	-0.25	0.45
loyal	0.46	1.09	0.42	.679	-1.78	2.70
loyal2	0.02	0.18	0.14	.890	-0.34	0.39
affect	0.43	1.01	0.42	.677	-1.65	2.50
affect2	-0.08	0.17	-0.47	.643	-0.43	0.27
respect	0.72	0.98	0.73	.472	-1.30	2.74
respect2	0.02	0.16	0.10	.920	-0.32	0.35
network	0.87	1.06	0.82	.417	-1.30	3.04
network2	-0.14	0.17	-0.83	.417	-0.49	0.21

Note. $F_{(10, 26)} = 25.71$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A137.2

Case 137 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.02	0.18	-0.08	.933	-0.01
loyal	0.64	0.19	3.36	.002	0.40
affect	-0.02	0.18	-0.10	.923	-0.01
respect	0.88	0.17	5.05	.000	0.58
network	0.04	0.19	0.21	.838	0.02

Note. $F_{(5, 31)} = 58.40$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 137 Observed Judgment Policy of School Building Leader Effectiveness

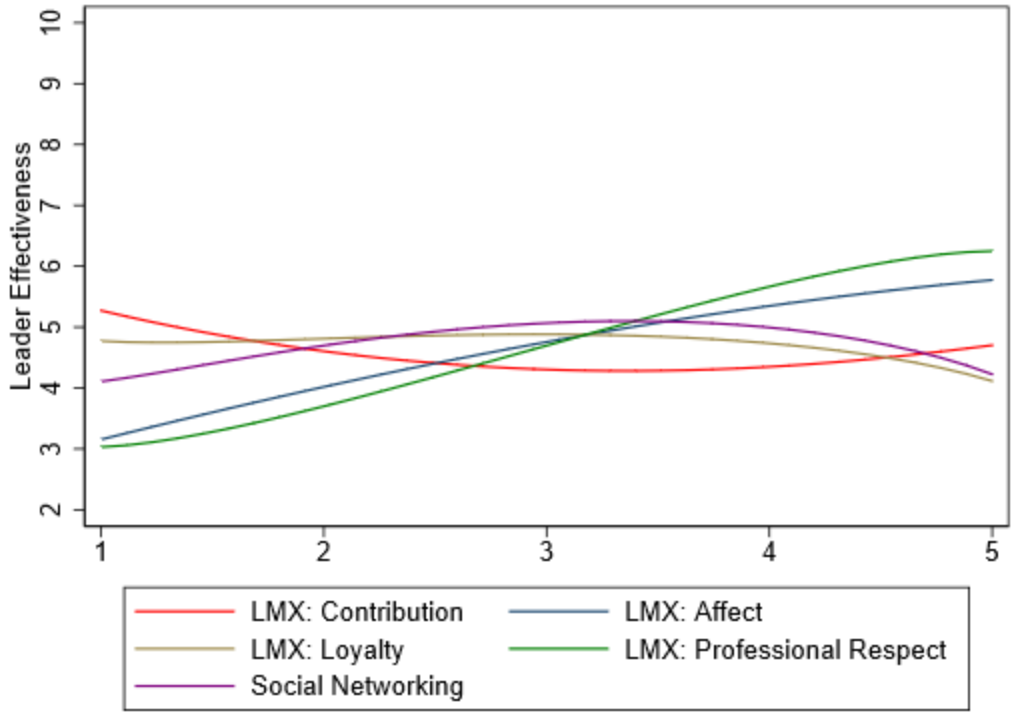


Figure A137.1. Judgment policy by leadership quality for Case 137 based on observed leader-effectiveness scores.

Case 137 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

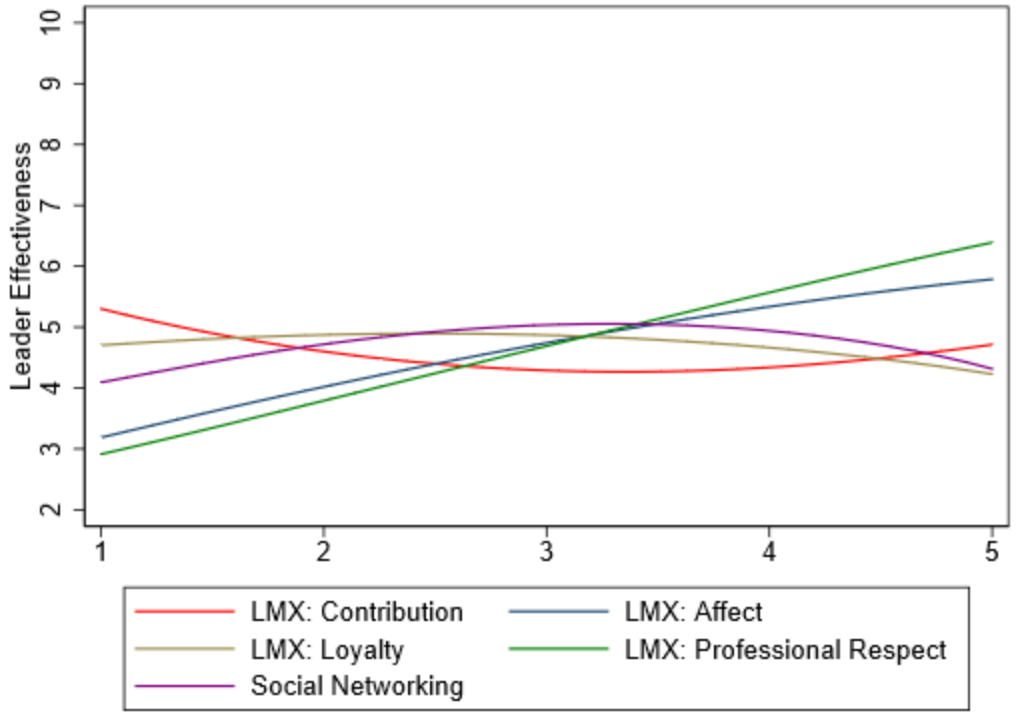


Figure A137.2. Judgment policy by leadership quality for Case 137 based on predicted leader-effectiveness scores from quadric regression.

Table A138.1

Case 138 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.55	1.01	0.54	.593	-1.53	2.63
contribution2	-0.09	0.17	-0.52	.611	-0.44	0.26
loyal	-1.60	1.08	-1.48	.152	-3.83	0.63
loyal2	0.32	0.18	1.81	.082	-0.04	0.68
affect	1.33	1.00	1.33	.196	-0.73	3.40
affect2	-0.22	0.17	-1.29	.208	-0.56	0.13
respect	0.64	0.98	0.65	.519	-1.37	2.65
respect2	-0.03	0.16	-0.18	.855	-0.36	0.30
network	1.57	1.05	1.49	.147	-0.59	3.72
network2	-0.19	0.17	-1.11	.277	-0.54	0.16

Note. $F_{(10, 26)} = 30.86$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A138.2

Case 138 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.19	0.57	.572	0.08
loyal	0.41	0.20	2.02	.052	0.29
affect	0.15	0.19	0.78	.443	0.11
respect	0.53	0.19	2.85	.008	0.39
network	0.51	0.21	2.45	.020	0.34

Note. $F_{(5, 31)} = 59.70$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 138 Observed Judgment Policy of School Building Leader Effectiveness

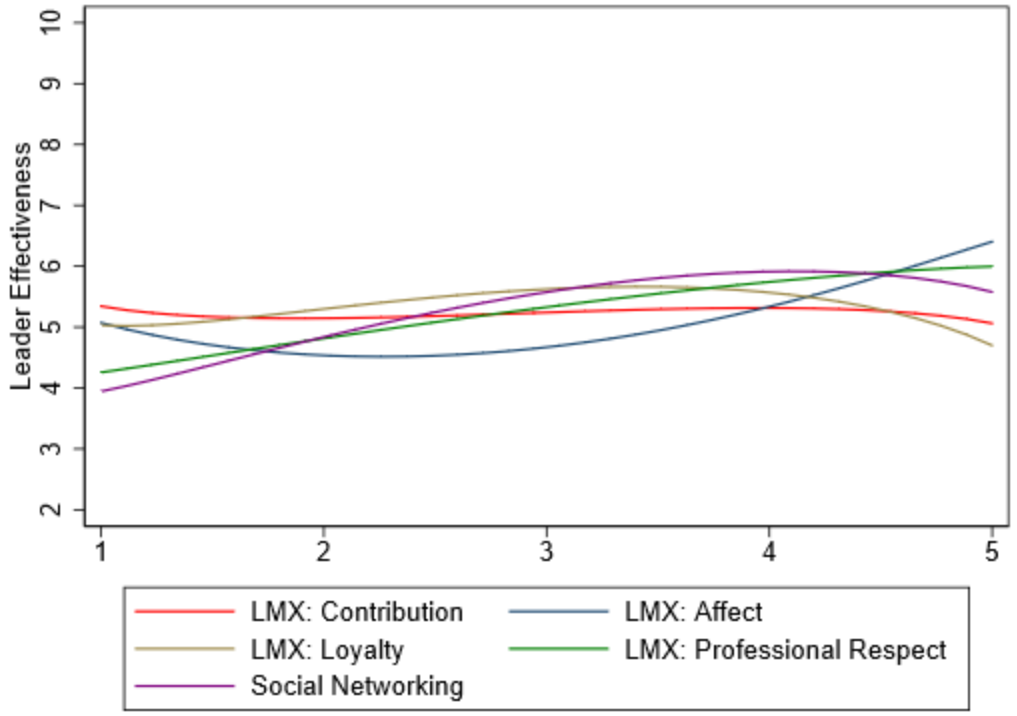


Figure A138.1. Judgment policy by leadership quality for Case 138 based on observed leader-effectiveness scores.

Case 138 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

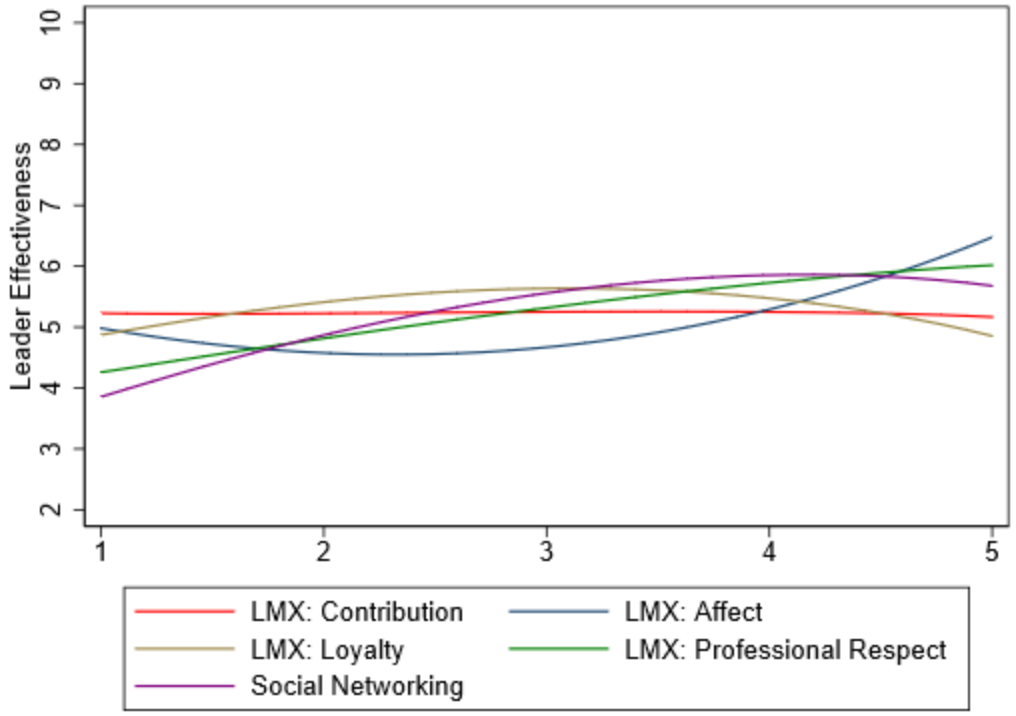


Figure A138.2. Judgment policy by leadership quality for Case 138 based on predicted leader-effectiveness scores from quadric regression.

Table A139.1

Case 139 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.29	0.81	-0.36	.723	-1.97	1.38
contribution2	0.10	0.14	0.75	.458	-0.18	0.38
loyal	-0.55	0.87	-0.63	.534	-2.34	1.24
loyal2	0.11	0.14	0.79	.437	-0.18	0.40
affect	1.71	0.81	2.12	.044	0.05	3.37
affect2	-0.25	0.14	-1.84	.076	-0.53	0.03
respect	1.78	0.79	2.27	.032	0.16	3.40
respect2	-0.18	0.13	-1.35	.189	-0.44	0.09
network	0.02	0.84	0.02	.982	-1.72	1.75
network2	0.03	0.14	0.20	.840	-0.25	0.31

Note. $F_{(10, 26)} = 61.47$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A139.2

Case 139 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.36	0.16	2.29	.029	0.31
loyal	0.20	0.17	1.21	.236	0.17
affect	0.31	0.16	1.96	.059	0.26
respect	0.82	0.15	5.36	.000	0.69
network	0.28	0.17	1.68	.104	0.22

Note. $F_{(5, 31)} = 116.71$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 139 Observed Judgment Policy of School Building Leader Effectiveness

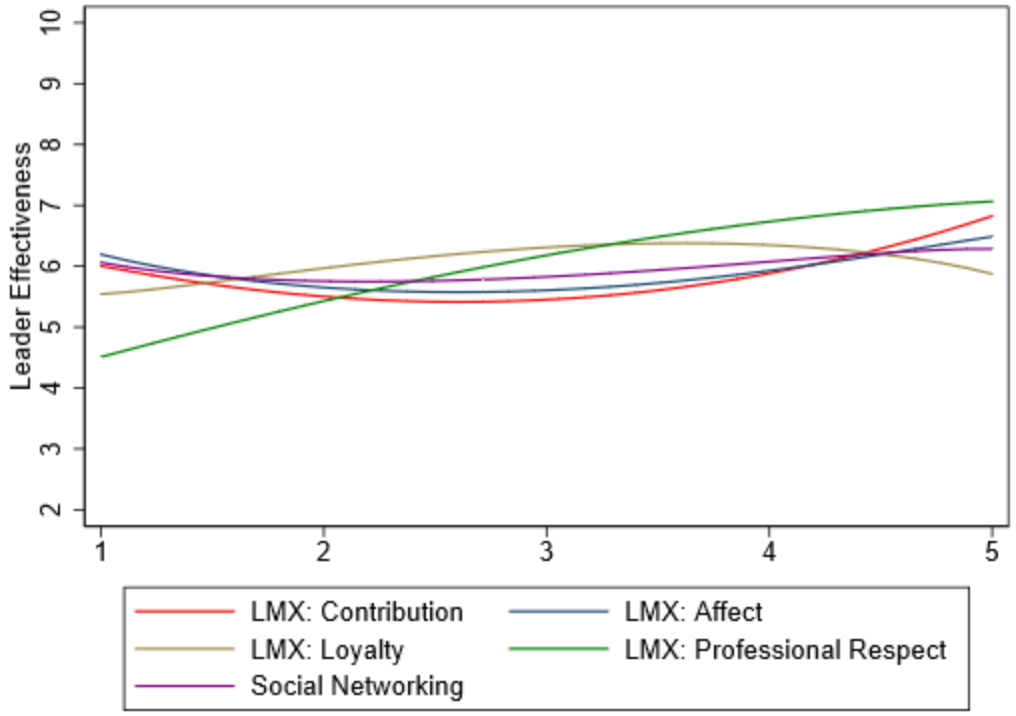


Figure A139.1. Judgment policy by leadership quality for Case 139 based on observed leader-effectiveness scores.

Case 139 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

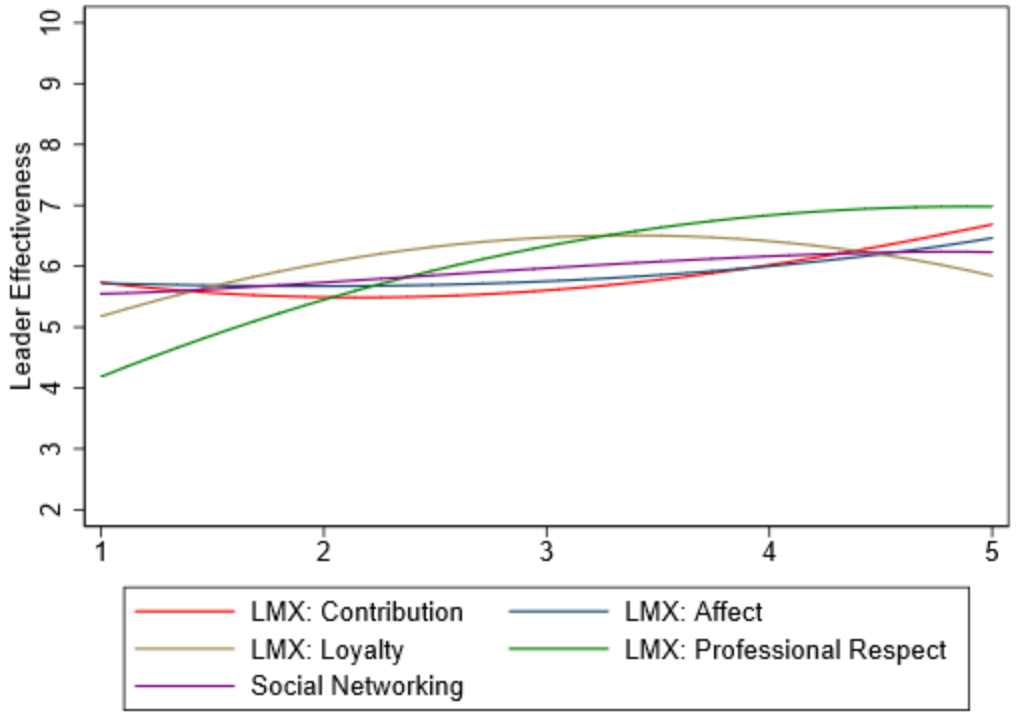


Figure A139.2. Judgment policy by leadership quality for Case 139 based on predicted leader-effectiveness scores from quadric regression.

Table A140.1

Case 140 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.18	0.64	0.28	.781	-1.14	1.50
contribution2	-0.03	0.11	-0.24	.814	-0.25	0.20
loyal	-1.67	0.69	-2.43	.022	-3.08	-0.25
loyal2	0.32	0.11	2.87	.008	0.09	0.55
affect	0.38	0.64	0.60	.555	-0.93	1.69
affect2	-0.06	0.11	-0.59	.559	-0.28	0.16
respect	2.11	0.62	3.40	.002	0.84	3.39
respect2	-0.16	0.10	-1.60	.121	-0.38	0.05
network	1.71	0.67	2.57	.016	0.34	3.08
network2	-0.23	0.11	-2.13	.043	-0.45	-0.01

Note. $F_{(10, 26)} = 118.33$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A140.2

Case 140 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.11	0.14	0.79	.434	0.07
loyal	0.36	0.14	2.50	.018	0.24
affect	0.10	0.14	0.70	.491	0.07
respect	1.17	0.13	8.84	.000	0.80
network	0.37	0.15	2.53	.017	0.23

Note. $F_{(5, 31)} = 184.14$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Case 140 Observed Judgment Policy of School Building Leader Effectiveness

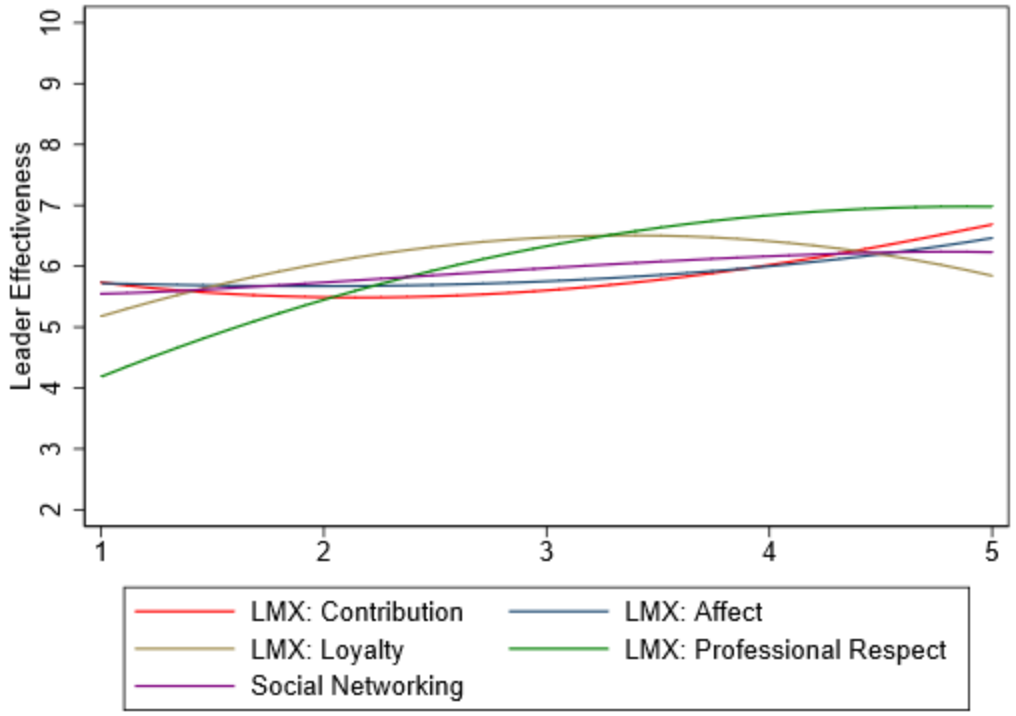


Figure A140.1. Judgment policy by leadership quality for Case 140 based on observed leader-effectiveness scores.

Case 140 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

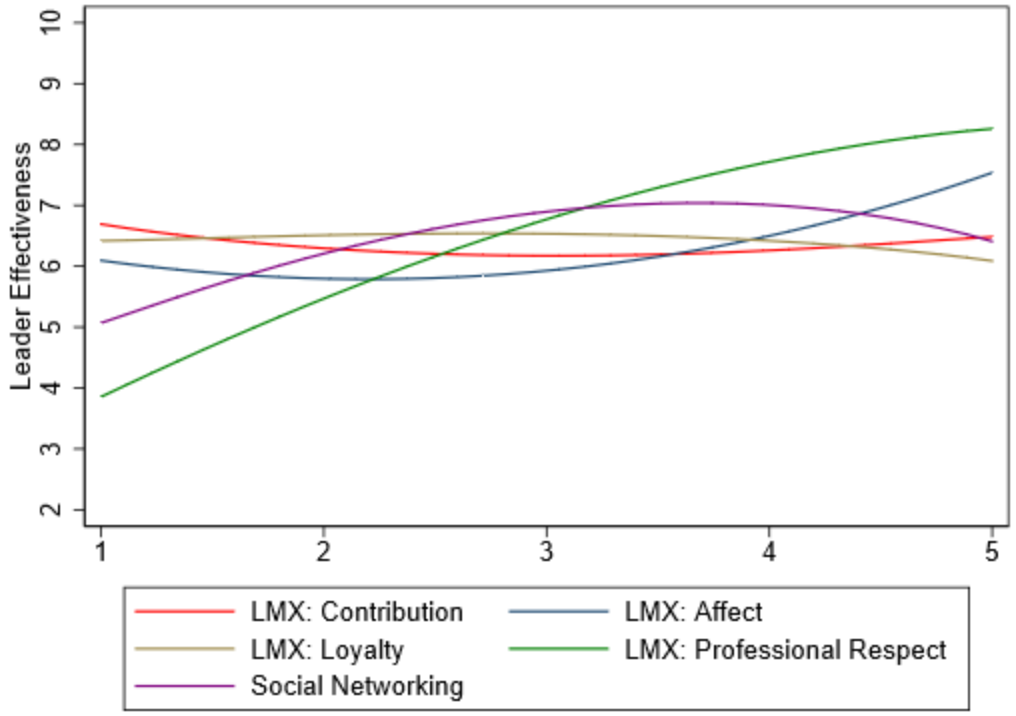


Figure A140.2. Judgment policy by leadership quality for Case 140 based on predicted leader-effectiveness scores from quadric regression.

Table A141.1

Case 141 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.16	0.99	1.17	.253	-0.87	3.19
contribution2	-0.19	0.17	-1.16	.255	-0.53	0.15
loyal	-1.05	1.06	-0.99	.330	-3.22	1.12
loyal2	0.22	0.17	1.30	.205	-0.13	0.58
affect	0.59	0.98	0.60	.551	-1.42	2.60
affect2	-0.10	0.16	-0.59	.561	-0.44	0.24
respect	1.21	0.95	1.27	.216	-0.75	3.17
respect2	-0.08	0.16	-0.52	.609	-0.41	0.24
network	0.77	1.02	0.75	.459	-1.33	2.87
network2	-0.08	0.17	-0.49	.627	-0.42	0.26

Note. $F_{(10, 26)} = 36.05$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A141.2

Case 141 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.10	0.18	0.54	.594	0.08
loyal	0.40	0.19	2.05	.049	0.30
affect	0.14	0.18	0.77	.446	0.11
respect	0.79	0.18	4.45	.000	0.63
network	0.38	0.20	1.92	.065	0.27

Note. $F_{(5, 31)} = 73.81$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 141 Observed Judgment Policy of School Building Leader Effectiveness

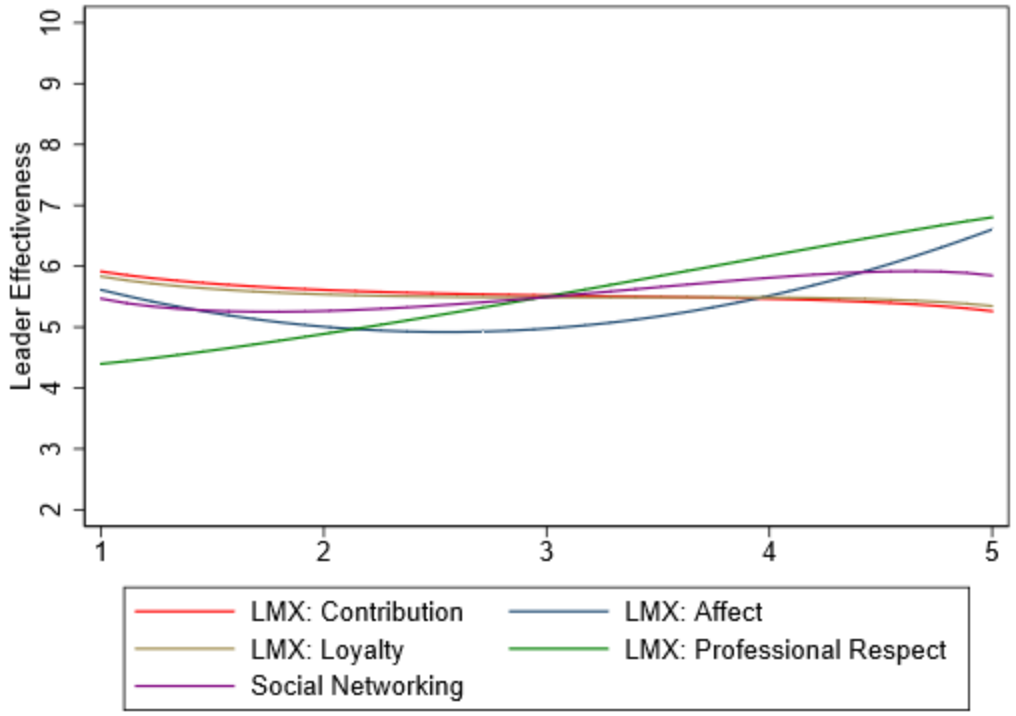


Figure A141.1. Judgment policy by leadership quality for Case 141 based on observed leader-effectiveness scores.

Case 141 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

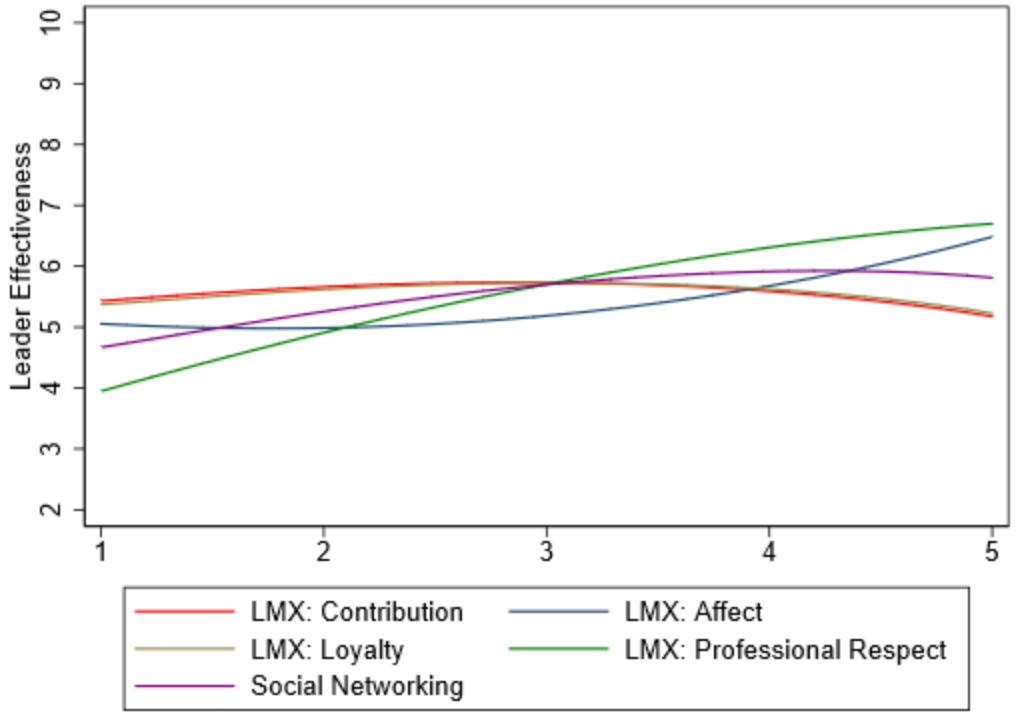


Figure A141.2. Judgment policy by leadership quality for Case 141 based on predicted leader-effectiveness scores from quadric regression.

Table A142.1

Case 142 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.14	1.26	0.91	.374	-1.45	3.72
contribution2	-0.15	0.21	-0.73	.474	-0.58	0.28
loyal	-1.31	1.34	-0.97	.339	-4.07	1.45
loyal2	0.26	0.22	1.18	.249	-0.19	0.71
affect	0.64	1.25	0.51	.612	-1.92	3.20
affect2	-0.10	0.21	-0.48	.632	-0.53	0.33
respect	1.72	1.21	1.42	.169	-0.78	4.21
respect2	-0.20	0.20	-1.01	.321	-0.62	0.21
network	0.15	1.30	0.11	.910	-2.53	2.83
network2	0.04	0.21	0.20	.840	-0.39	0.48

Note. $F_{(10, 26)} = 20.04$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A142.2

Case 142 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.27	0.23	1.18	.247	0.18
loyal	0.32	0.24	1.30	.202	0.20
affect	0.13	0.23	0.58	.564	0.09
respect	0.51	0.22	2.32	.027	0.34
network	0.49	0.25	1.99	.056	0.29

Note. $F_{(5, 31)} = 42.44$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 142 Observed Judgment Policy of School Building Leader Effectiveness

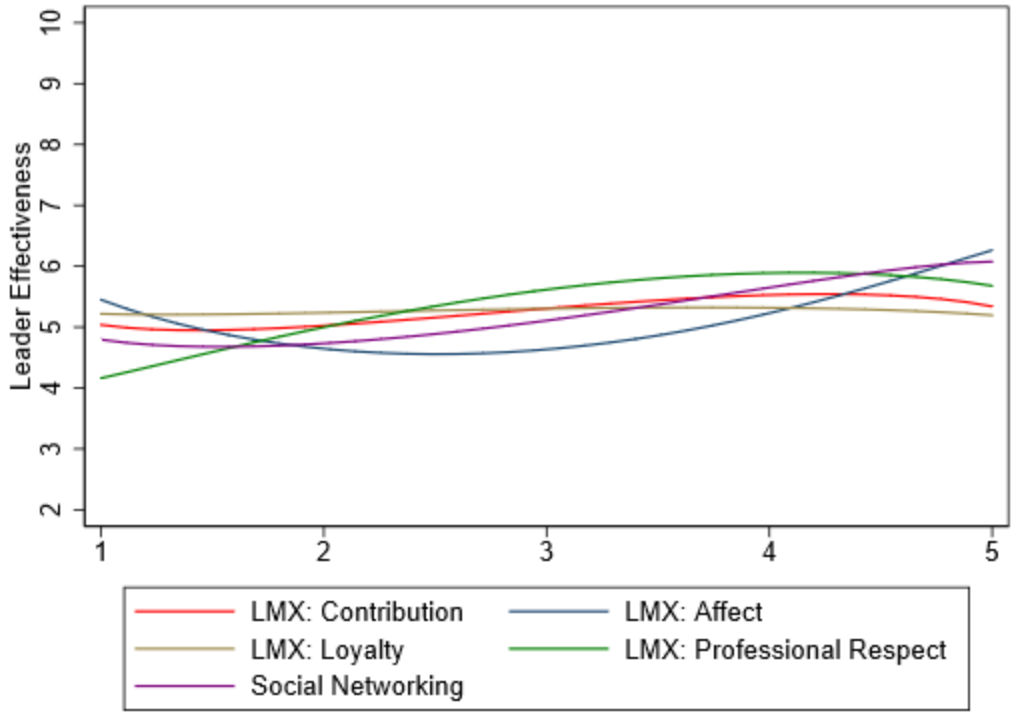


Figure A142.1. Judgment policy by leadership quality for Case 142 based on observed leader-effectiveness scores.

Case 142 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

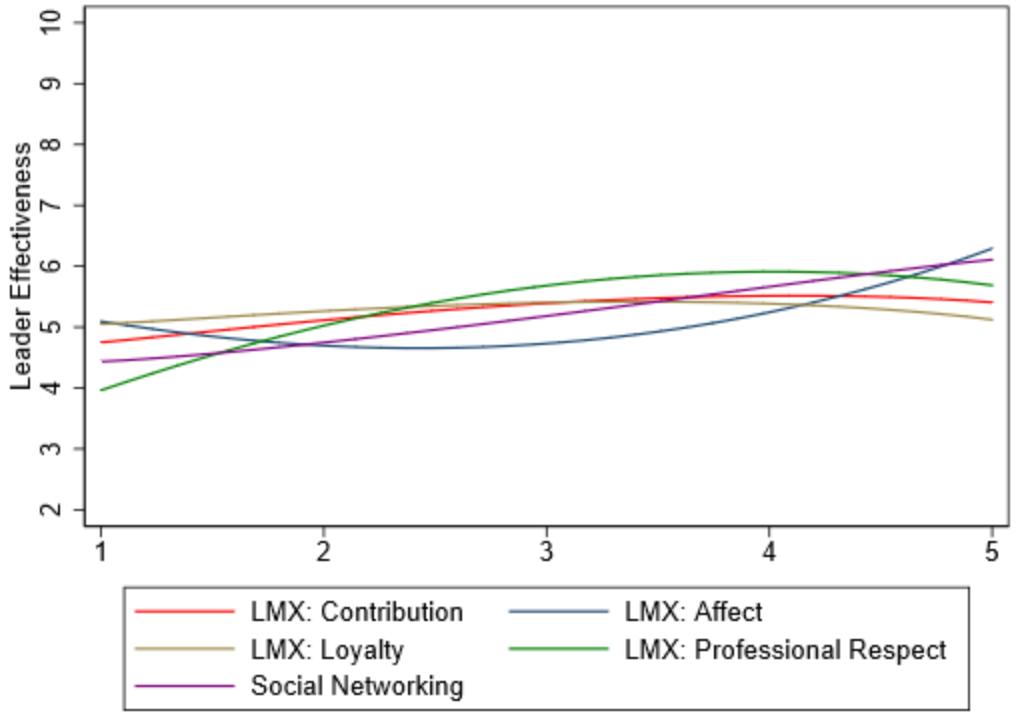


Figure A142.2. Judgment policy by leadership quality for Case 142 based on predicted leader-effectiveness scores from quadric regression.

Table A143.1

Case 143 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.38	0.82	1.68	.104	-0.31	3.07
contribution2	-0.21	0.14	-1.50	.147	-0.49	0.08
loyal	-2.82	0.88	-3.21	.004	-4.63	-1.01
loyal2	0.51	0.14	3.57	.001	0.22	0.80
affect	1.81	0.81	2.22	.035	0.13	3.48
affect2	-0.28	0.14	-2.01	.055	-0.56	0.01
respect	1.88	0.79	2.37	.026	0.25	3.51
respect2	-0.14	0.13	-1.05	.303	-0.41	0.13
network	0.12	0.85	0.14	.887	-1.63	1.87
network2	-0.02	0.14	-0.14	.893	-0.30	0.27

Note. $F_{(10, 26)} = 56.79$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A143.2

Case 142 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.18	0.18	1.01	.322	0.12
loyal	0.32	0.19	1.65	.109	0.21
affect	0.27	0.18	1.47	.152	0.18
respect	1.03	0.18	5.87	.000	0.69
network	0.07	0.19	0.38	.704	0.05

Note. $F_{(5, 31)} = 81.34$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 143 Observed Judgment Policy of School Building Leader Effectiveness

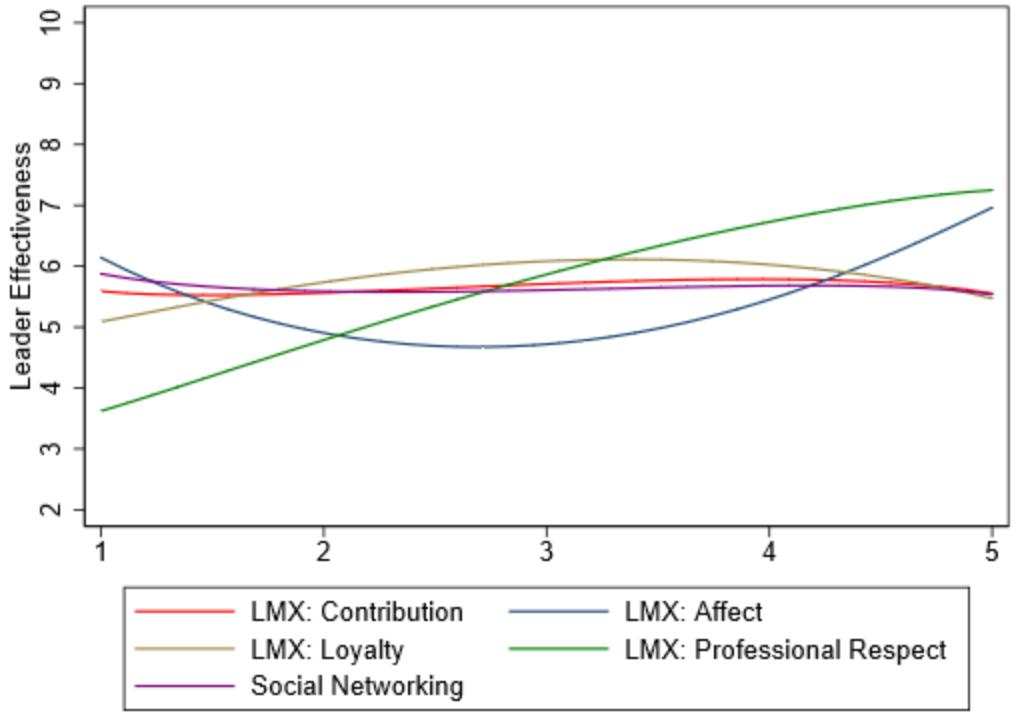


Figure A143.1. Judgment policy by leadership quality for Case 142 based on observed leader-effectiveness scores.

Case 143 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

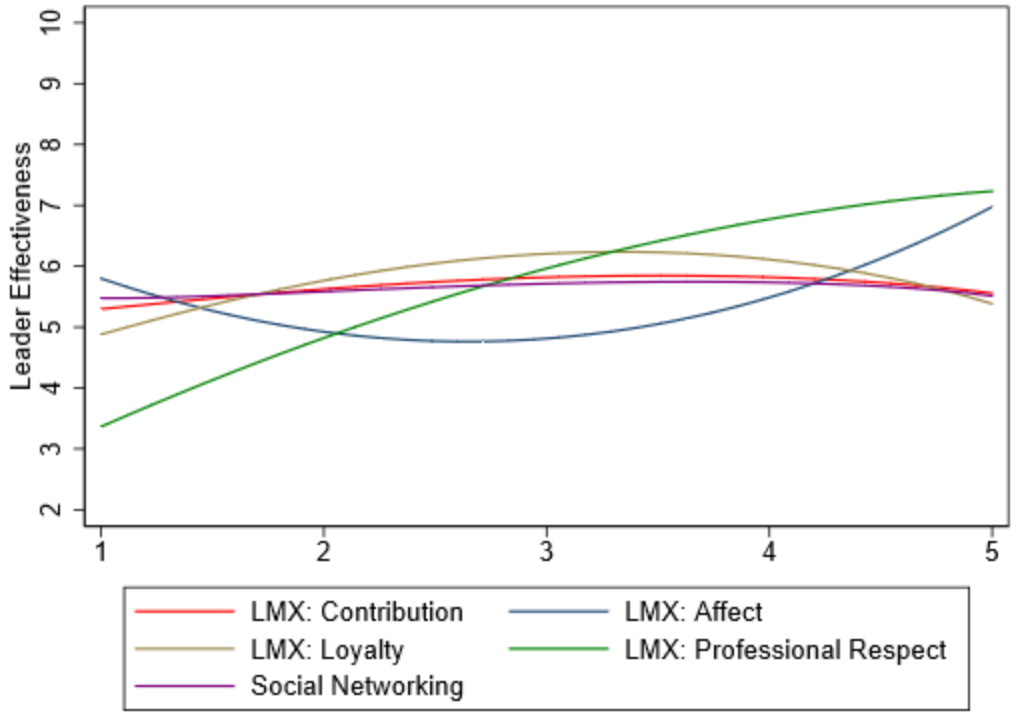


Figure A143.2. Judgment policy by leadership quality for Case 142 based on predicted leader-effectiveness scores from quadric regression.

Table A144.1

Case 144 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.72	1.24	-0.58	.570	-3.27	1.84
contribution2	0.08	0.21	0.37	.713	-0.35	0.50
loyal	-0.69	1.33	-0.52	.605	-3.42	2.03
loyal2	0.15	0.22	0.70	.491	-0.29	0.59
affect	0.47	1.23	0.38	.705	-2.06	3.00
affect2	-0.11	0.21	-0.53	.603	-0.53	0.32
respect	1.02	1.20	0.85	.403	-1.45	3.48
respect2	-0.06	0.20	-0.32	.751	-0.47	0.34
network	1.53	1.29	1.19	.246	-1.12	4.17
network2	-0.26	0.21	-1.25	.224	-0.69	0.17

Note. $F_{(10, 26)} = 6.16$ ($p < .001$), $R^2 = .70$, Adjusted $R^2 = .59$

Table A144.2

Case 144 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.16	0.22	-0.71	.485	-0.10
loyal	0.31	0.24	1.32	.198	0.19
affect	-0.08	0.23	-0.36	.720	-0.05
respect	0.75	0.22	3.45	.002	0.47
network	0.03	0.24	0.11	.917	0.01

Note. $F_{(5, 31)} = 12.84$ ($p < .001$), $R^2 = .67$, Adjusted $R^2 = .62$

Case 144 Observed Judgment Policy of School Building Leader Effectiveness

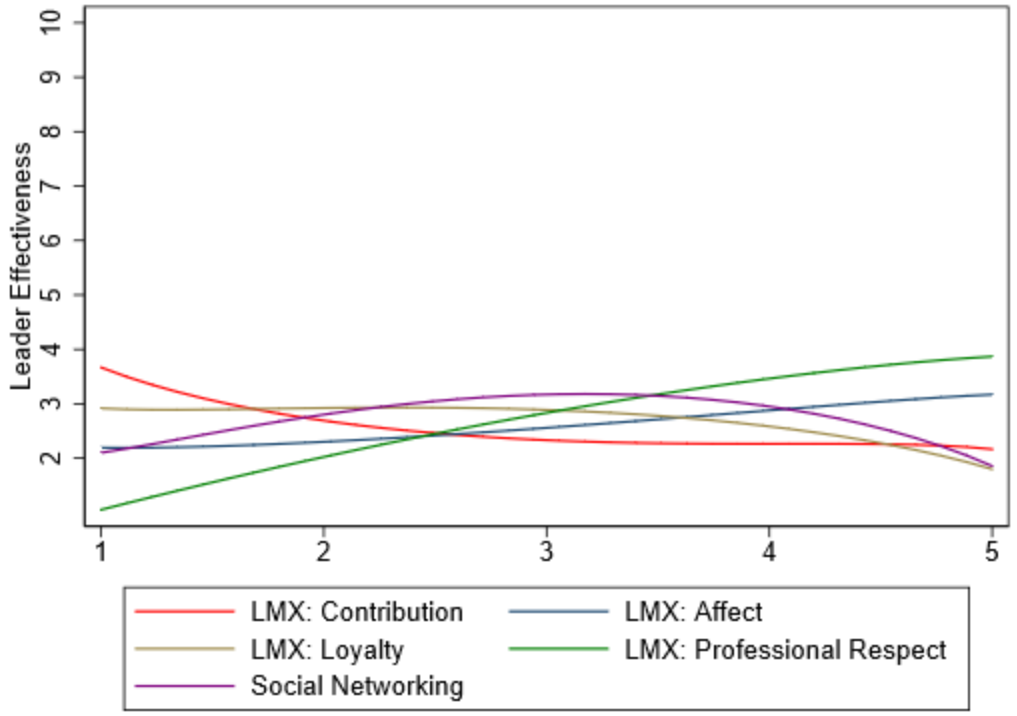


Figure A144.1. Judgment policy by leadership quality for Case 143 based on observed leader-effectiveness scores.

Case 144 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

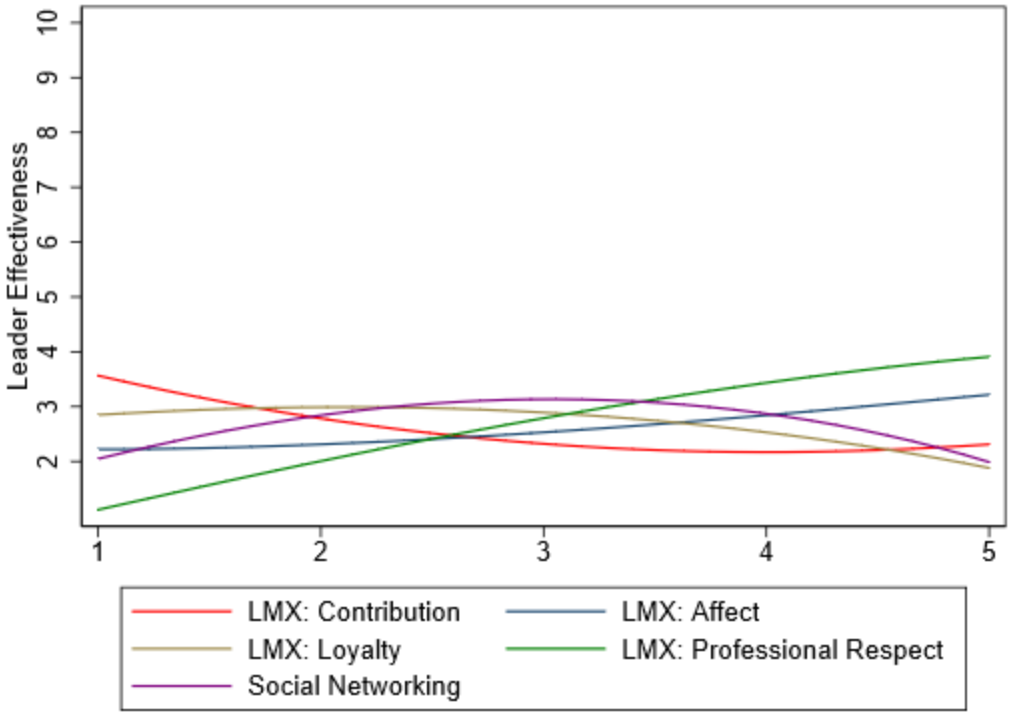


Figure A144.2. Judgment policy by leadership quality for Case 143 based on predicted leader-effectiveness scores from quadric regression.

Table A145.1

Case 145 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.47	2.11	0.22	.824	-3.86	4.80
contribution2	-0.14	0.35	-0.40	.692	-0.86	0.58
loyal	0.70	2.25	0.31	.757	-3.92	5.33
loyal2	0.04	0.37	0.10	.917	-0.71	0.79
affect	2.04	2.09	0.98	.337	-2.25	6.33
affect2	-0.41	0.35	-1.17	.254	-1.13	0.31
respect	0.01	2.03	0.01	.995	-4.17	4.19
respect2	0.11	0.34	0.32	.753	-0.59	0.80
network	0.37	2.18	0.17	.868	-4.12	4.85
network2	-0.11	0.35	-0.30	.763	-0.84	0.62

Note. $F_{(10, 26)} = 7.84$ ($p < .001$), $R^2 = .75$, Adjusted $R^2 = .66$

Table A145.2

Case 144 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.19	0.38	-0.50	.623	-0.07
loyal	1.11	0.41	2.75	.010	0.41
affect	-0.15	0.39	-0.39	.702	-0.06
respect	0.92	0.37	2.48	.019	0.35
network	-0.04	0.41	-0.10	.920	-0.01

Note. $F_{(5, 31)} = 16.25$ ($p < .001$), $R^2 = .72$, Adjusted $R^2 = .68$

Case 145 Observed Judgment Policy of School Building Leader Effectiveness

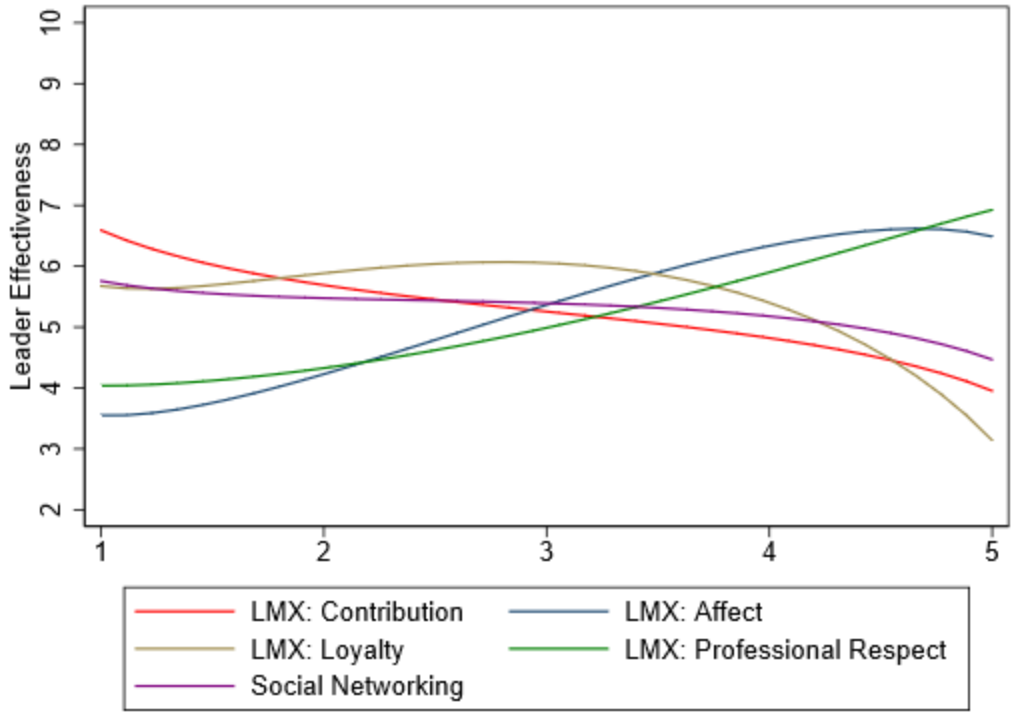


Figure A145.1. Judgment policy by leadership quality for Case 144 based on observed leader-effectiveness scores.

Case 145 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

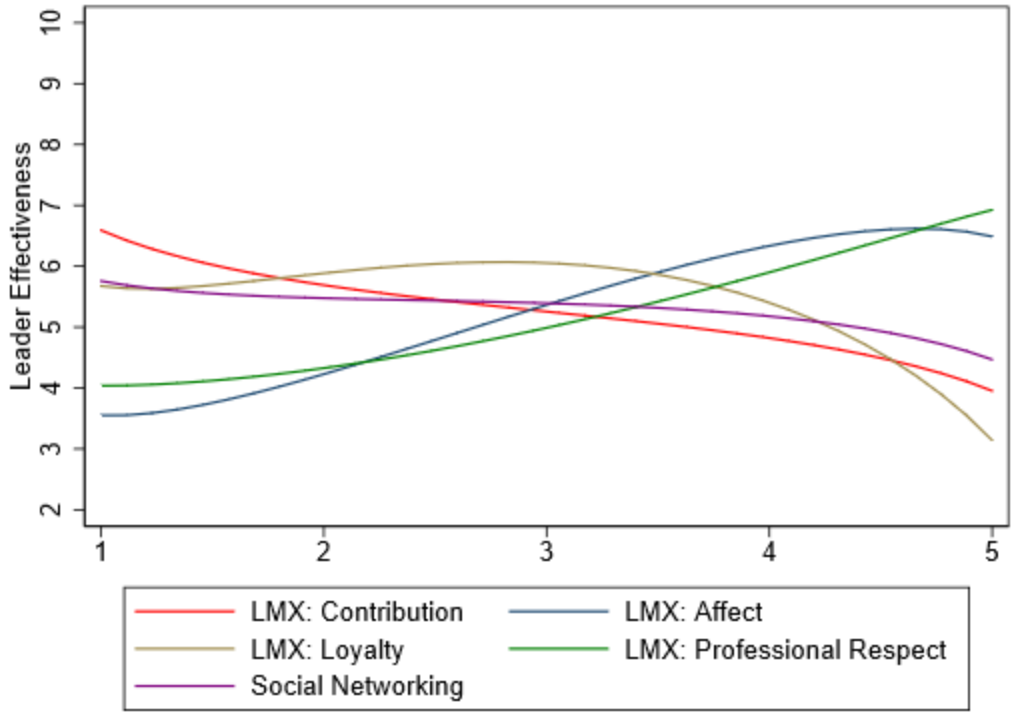


Figure A145.2. Judgment policy by leadership quality for Case 144 based on predicted leader-effectiveness scores from quadric regression.

Table A146.1

Case 146 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.52	1.11	1.37	.183	-0.76	3.80
contribution2	-0.17	0.19	-0.92	.367	-0.55	0.21
loyal	-1.94	1.18	-1.64	.113	-4.38	0.49
loyal2	0.32	0.19	1.68	.105	-0.07	0.72
affect	1.22	1.10	1.11	.276	-1.04	3.48
affect2	-0.14	0.18	-0.77	.446	-0.52	0.24
respect	0.56	1.07	0.53	.603	-1.64	2.76
respect2	0.04	0.18	0.20	.843	-0.33	0.40
network	0.82	1.15	0.71	.482	-1.54	3.18
network2	-0.07	0.19	-0.37	.713	-0.45	0.31

Note. $F_{(10, 26)} = 37.00$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A146.2

Case 146 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.51	0.20	2.53	.017	0.33
loyal	0.02	0.22	0.11	.911	0.02
affect	0.40	0.20	1.98	.057	0.26
respect	0.74	0.20	3.74	.001	0.48
network	0.41	0.22	1.86	.073	0.24

Note. $F_{(5, 31)} = 77.35$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Case 146 Observed Judgment Policy of School Building Leader Effectiveness

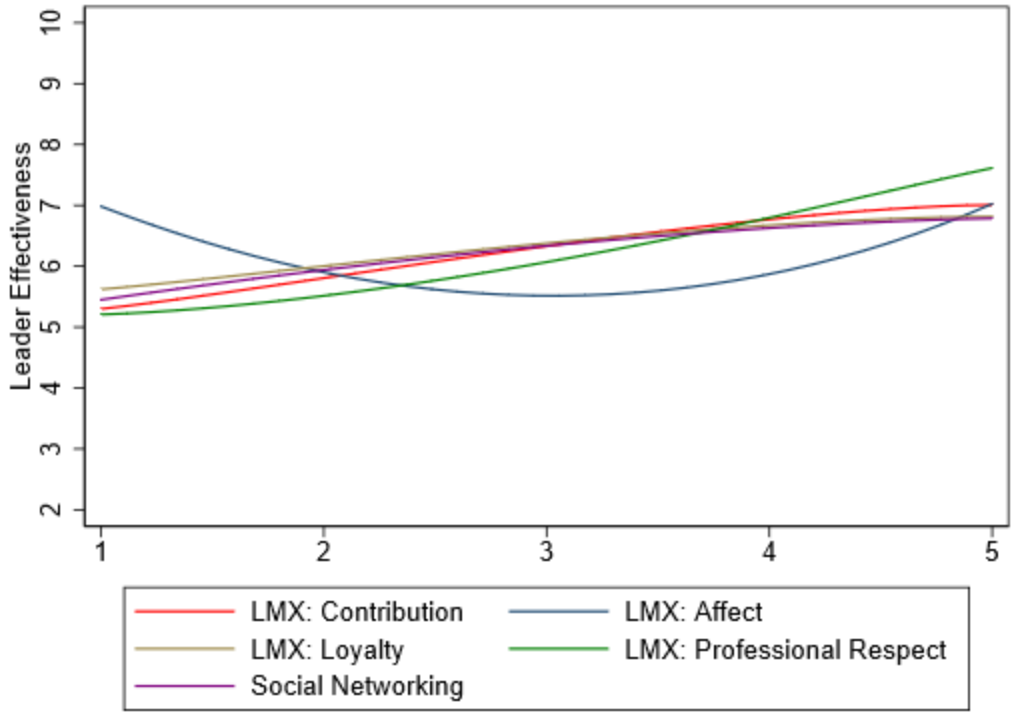


Figure A146.1. Judgment policy by leadership quality for Case 146 based on observed leader-effectiveness scores.

Case 146 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

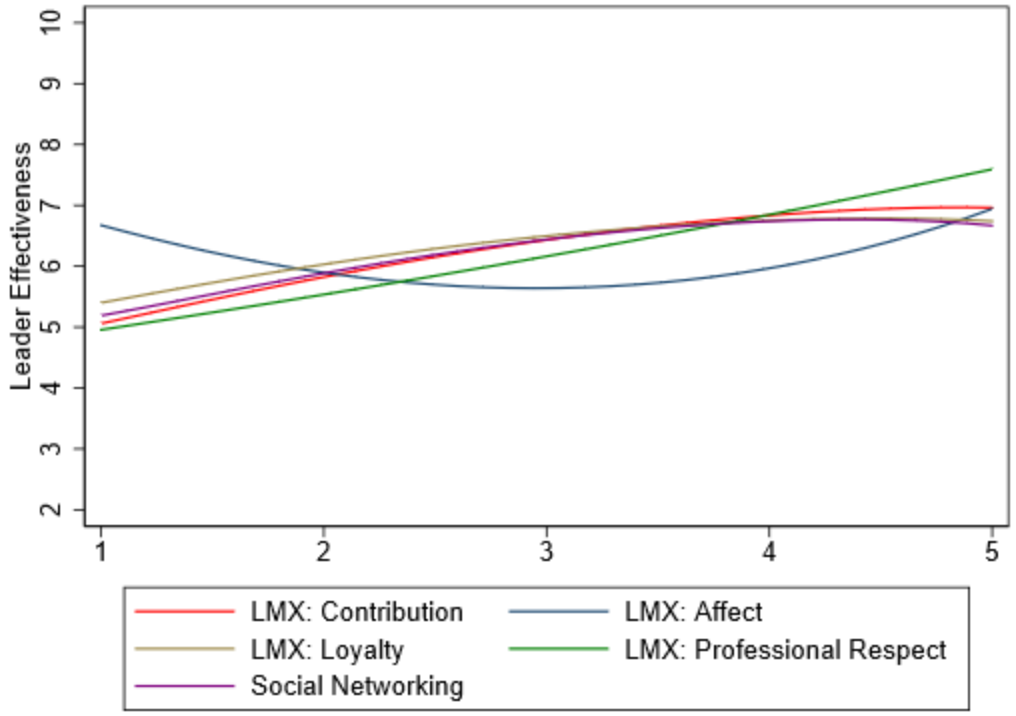


Figure A146.2. Judgment policy by leadership quality for Case 146 based on predicted leader-effectiveness scores from quadric regression.

Table A147.1

Case 147 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.57	1.30	-0.44	.667	-3.24	2.11
contribution2	0.14	0.22	0.63	.537	-0.31	0.58
loyal	-1.14	1.39	-0.82	.417	-4.00	1.71
loyal2	0.19	0.23	0.85	.403	-0.27	0.66
affect	2.98	1.29	2.31	.029	0.33	5.63
affect2	-0.44	0.22	-2.04	.052	-0.89	0.00
respect	2.76	1.25	2.20	.037	0.19	5.34
respect2	-0.34	0.21	-1.65	.111	-0.77	0.08
network	-0.66	1.35	-0.49	.630	-3.42	2.11
network2	0.09	0.22	0.43	.672	-0.36	0.54

Note. $F_{(10, 26)} = 25.10$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A147.2

Case 147 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.32	0.26	1.25	.222	0.19
loyal	0.16	0.27	0.58	.563	0.09
affect	0.53	0.26	2.06	.048	0.32
respect	0.87	0.25	3.49	.001	0.53
network	0.10	0.28	0.36	.719	0.06

Note. $F_{(5, 31)} = 43.87$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 147 Observed Judgment Policy of School Building Leader Effectiveness

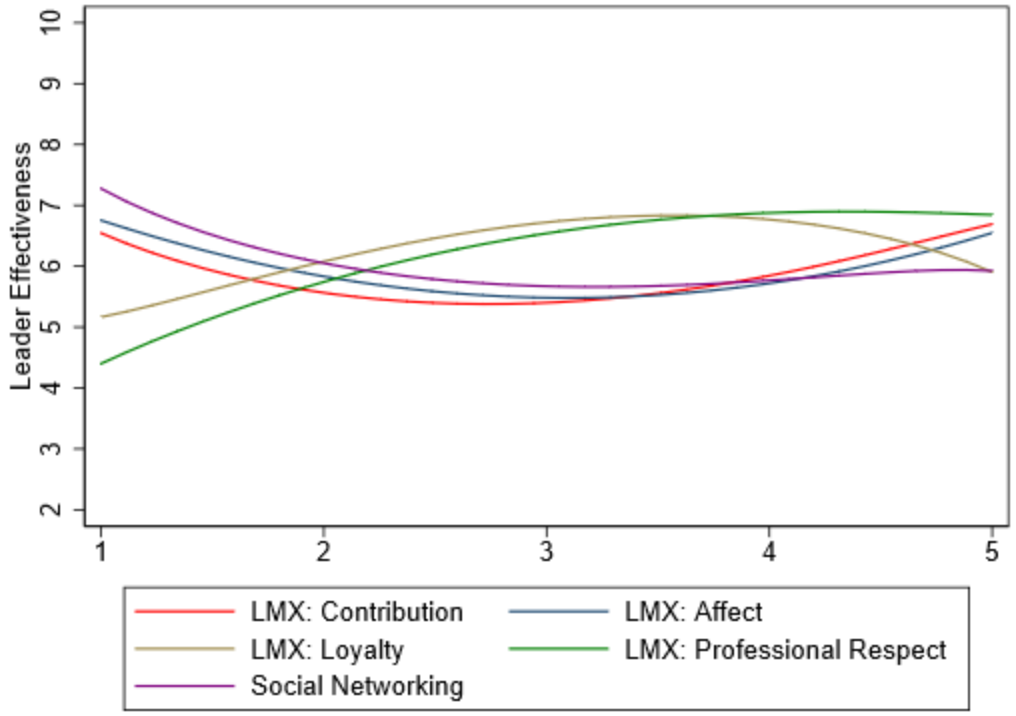


Figure A147.1. Judgment policy by leadership quality for Case 147 based on observed leader-effectiveness scores.

Case 147 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

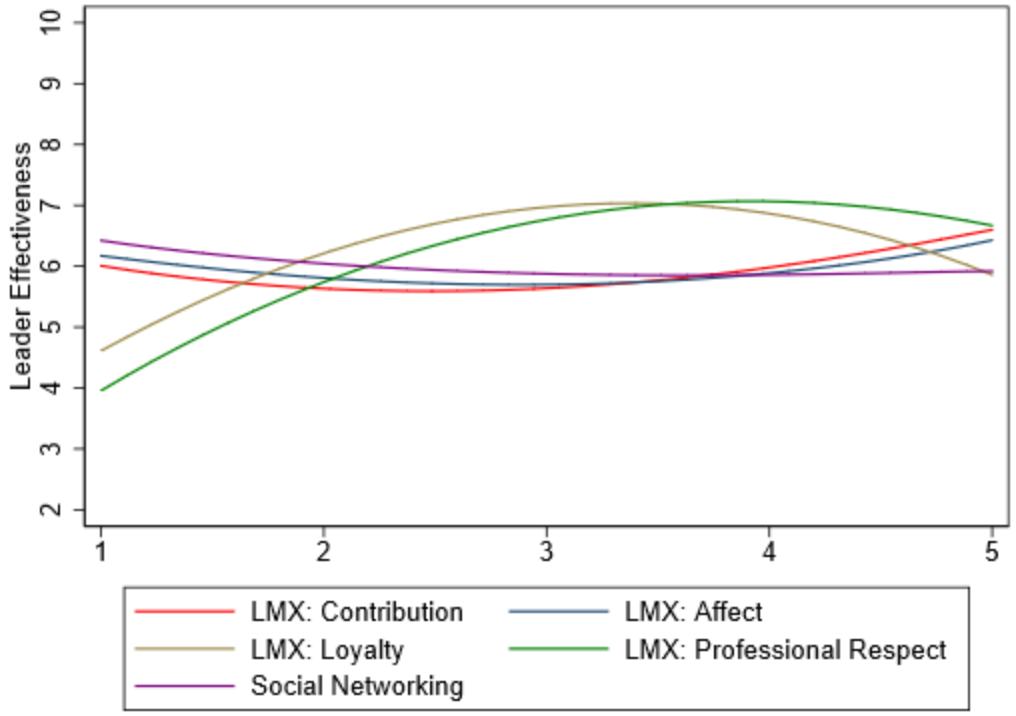


Figure A147.2. Judgment policy by leadership quality for Case 147 based on predicted leader-effectiveness scores from quadric regression.

Table A148.1

Case 148 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.35	1.29	0.27	.787	-2.30	3.01
contribution2	-0.03	0.22	-0.13	.901	-0.47	0.42
loyal	-1.89	1.38	-1.37	.182	-4.74	0.95
loyal2	0.34	0.22	1.52	.141	-0.12	0.80
affect	1.31	1.28	1.02	.316	-1.32	3.95
affect2	-0.22	0.22	-1.04	.306	-0.67	0.22
respect	1.44	1.25	1.15	.261	-1.13	4.00
respect2	-0.07	0.21	-0.36	.724	-0.50	0.35
network	0.20	1.34	0.15	.882	-2.55	2.95
network2	0.05	0.22	0.21	.838	-0.40	0.49

Note. $F_{(10, 26)} = 17.47$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .82$

Table A148.2

Case 148 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.23	0.59	.561	0.08
loyal	0.14	0.25	0.58	.568	0.08
affect	-0.03	0.24	-0.14	.889	-0.02
respect	0.91	0.23	3.98	.000	0.50
network	0.45	0.25	1.78	.084	0.23

Note. $F_{(5, 31)} = 36.55$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .83$

Case 148 Observed Judgment Policy of School Building Leader Effectiveness

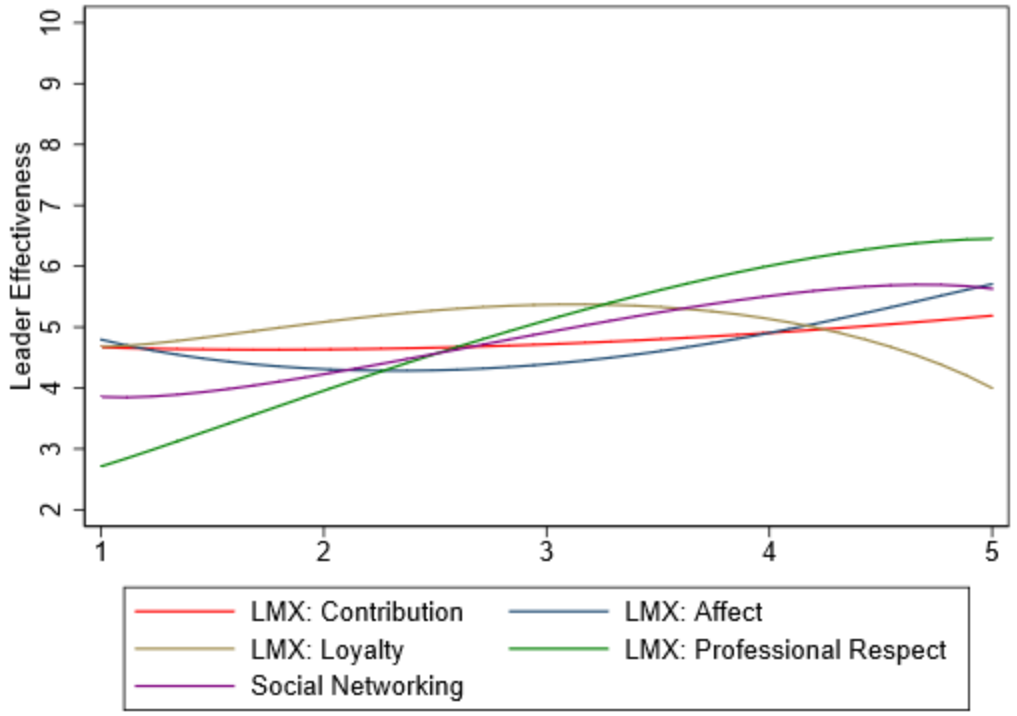


Figure A148.1. Judgment policy by leadership quality for Case 148 based on observed leader-effectiveness scores.

Case 148 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

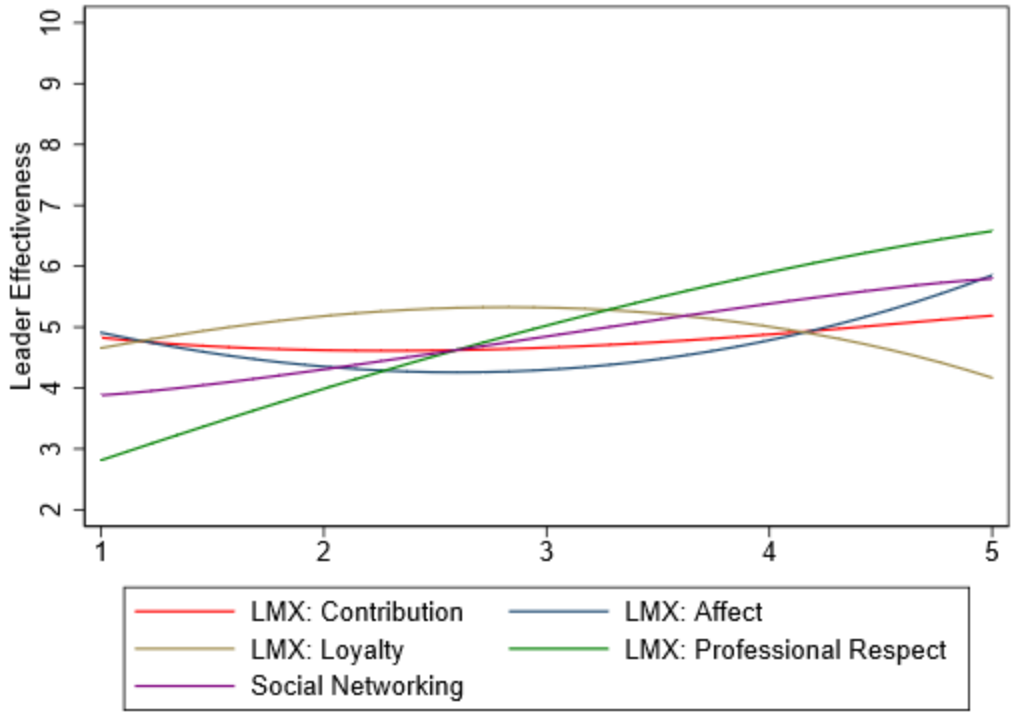


Figure A148.2. Judgment policy by leadership quality for Case 148 based on predicted leader-effectiveness scores from quadric regression.

Table A149.1

Case 149 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.16	0.88	0.18	.857	-1.65	1.97
contribution2	0.06	0.15	0.42	.676	-0.24	0.36
loyal	-0.98	0.94	-1.04	.307	-2.92	0.95
loyal2	0.17	0.15	1.14	.266	-0.14	0.49
affect	0.68	0.87	0.77	.446	-1.12	2.47
affect2	-0.11	0.15	-0.75	.459	-0.41	0.19
respect	0.08	0.85	0.10	.924	-1.67	1.83
respect2	0.16	0.14	1.12	.274	-0.13	0.45
network	2.09	0.91	2.29	.030	0.22	3.97
network2	-0.30	0.15	-2.05	.050	-0.61	0.00

Note. $F_{(10, 26)} = 55.10$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A149.2

Case 149 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.57	0.17	3.42	.002	0.38
loyal	0.08	0.18	0.47	.643	0.05
affect	0.03	0.17	0.17	.869	0.02
respect	1.06	0.16	6.46	.000	0.69
network	0.24	0.18	1.30	.204	0.14

Note. $F_{(5, 31)} = 105.72$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 149 Observed Judgment Policy of School Building Leader Effectiveness

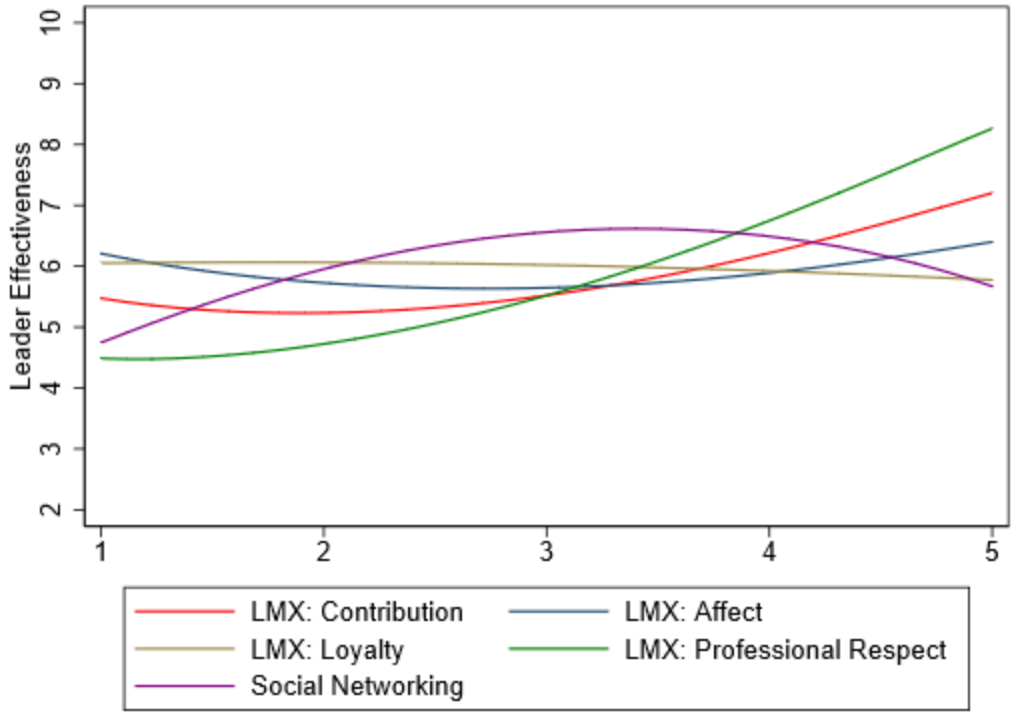


Figure A149.1. Judgment policy by leadership quality for Case 149 based on observed leader-effectiveness scores.

Case 149 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

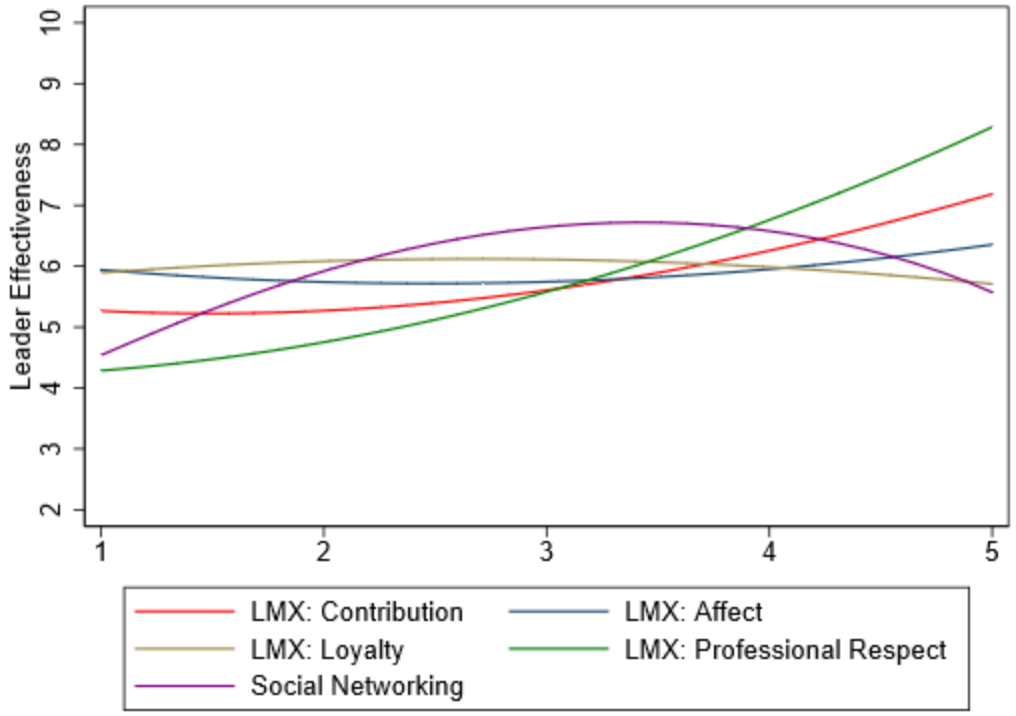


Figure A149.2. Judgment policy by leadership quality for Case 149 based on predicted leader-effectiveness scores from quadric regression.

Table A150.1

Case 150 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.20	1.54	-0.13	.898	-3.36	2.96
contribution2	0.09	0.26	0.35	.726	-0.44	0.62
loyal	-3.16	1.64	-1.92	.066	-6.54	0.22
loyal2	0.52	0.27	1.95	.062	-0.03	1.07
affect	0.69	1.52	0.45	.653	-2.44	3.83
affect2	-0.16	0.26	-0.61	.546	-0.68	0.37
respect	3.10	1.48	2.09	.047	0.05	6.15
respect2	-0.32	0.25	-1.32	.198	-0.83	0.18
network	1.88	1.59	1.18	.248	-1.39	5.16
network2	-0.22	0.26	-0.84	.407	-0.75	0.31

Note. $F_{(10, 26)} = 19.08$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .83$

Table A150.2

Case 150 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.37	0.29	1.29	.207	0.17
loyal	0.06	0.31	0.19	.852	0.02
affect	-0.17	0.29	-0.59	.557	-0.08
respect	1.14	0.28	4.01	.000	0.50
network	0.59	0.32	1.85	.074	0.23

Note. $F_{(5, 31)} = 36.24$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .83$

Case 150 Observed Judgment Policy of School Building Leader Effectiveness

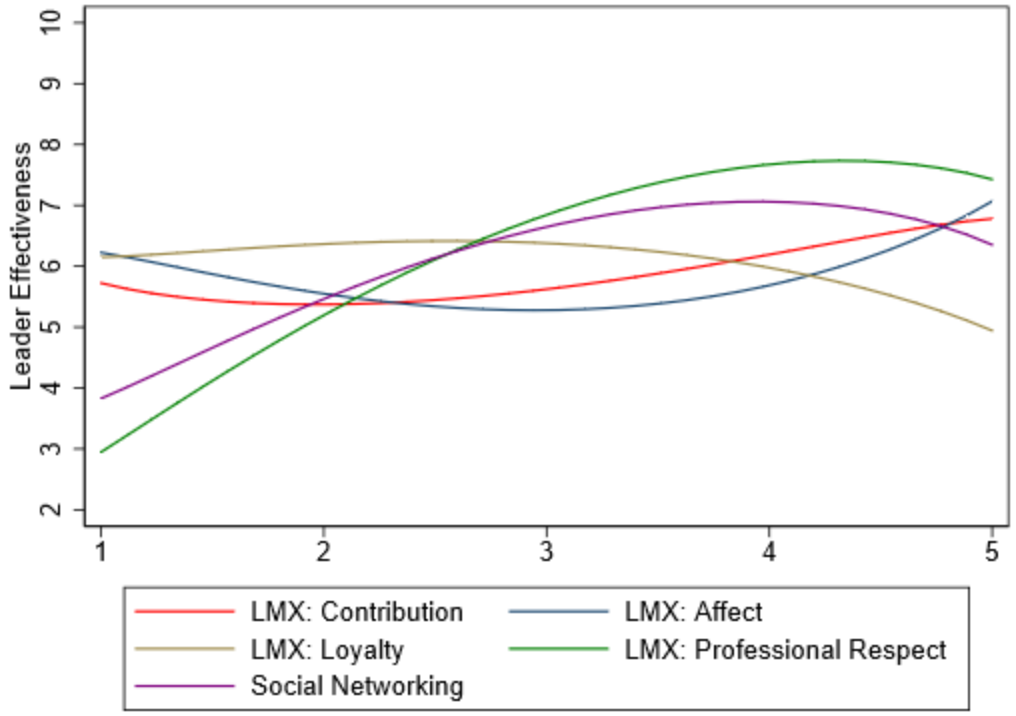


Figure A150.1. Judgment policy by leadership quality for Case 150 based on observed leader-effectiveness scores.

Case 150 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

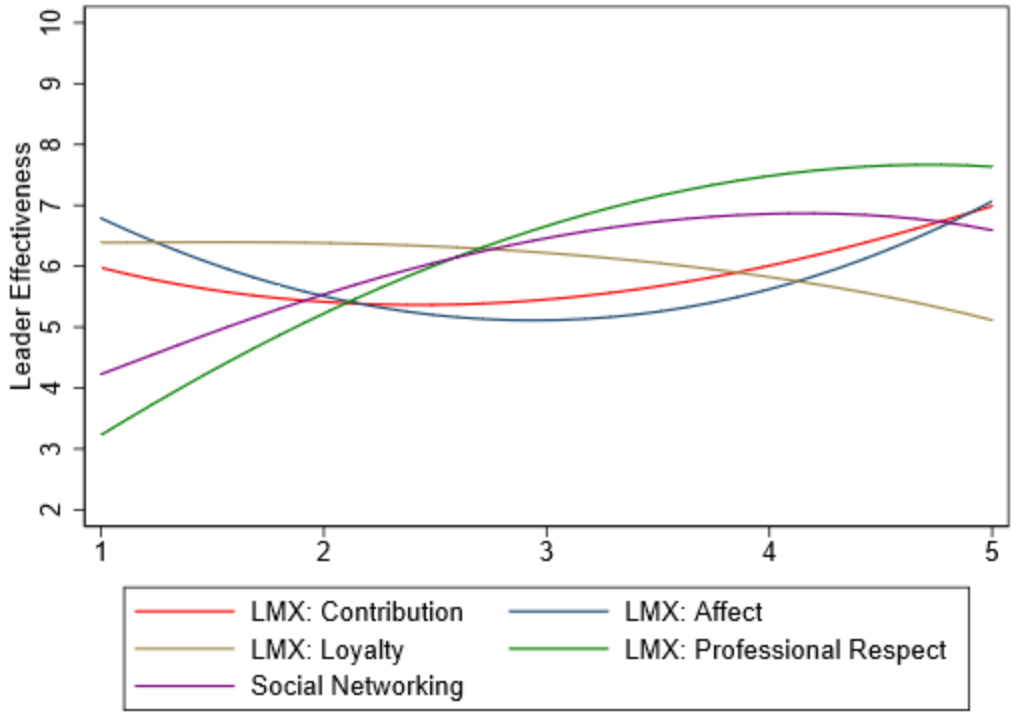


Figure A150.2. Judgment policy by leadership quality for Case 150 based on predicted leader-effectiveness scores from quadric regression.

Table A151.1

Case 151 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.28	2.15	-0.13	.897	-4.69	4.13
contribution2	0.00	0.36	-0.01	.994	-0.74	0.73
loyal	-0.28	2.29	-0.12	.905	-4.99	4.44
loyal2	0.24	0.37	0.64	.530	-0.53	1.00
affect	2.29	2.13	1.08	.292	-2.08	6.66
affect2	-0.39	0.36	-1.09	.286	-1.12	0.35
respect	1.05	2.07	0.51	.615	-3.20	5.31
respect2	-0.18	0.34	-0.53	.603	-0.89	0.52
network	1.19	2.22	0.54	.597	-3.38	5.76
network2	-0.16	0.36	-0.44	.662	-0.90	0.58

Note. $F_{(10, 26)} = 11.13$ ($p < .001$), $R^2 = .81$, Adjusted $R^2 = .74$

Table A151.2

Case 151 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.13	0.39	-0.34	.735	-0.05
loyal	1.36	0.41	3.29	.002	0.51
affect	0.21	0.39	0.55	.587	0.08
respect	0.21	0.38	0.55	.588	0.08
network	0.45	0.42	1.08	.288	0.16

Note. $F_{(5, 31)} = 23.52$ ($p < .001$), $R^2 = .79$, Adjusted $R^2 = .76$

Case 151 Observed Judgment Policy of School Building Leader Effectiveness

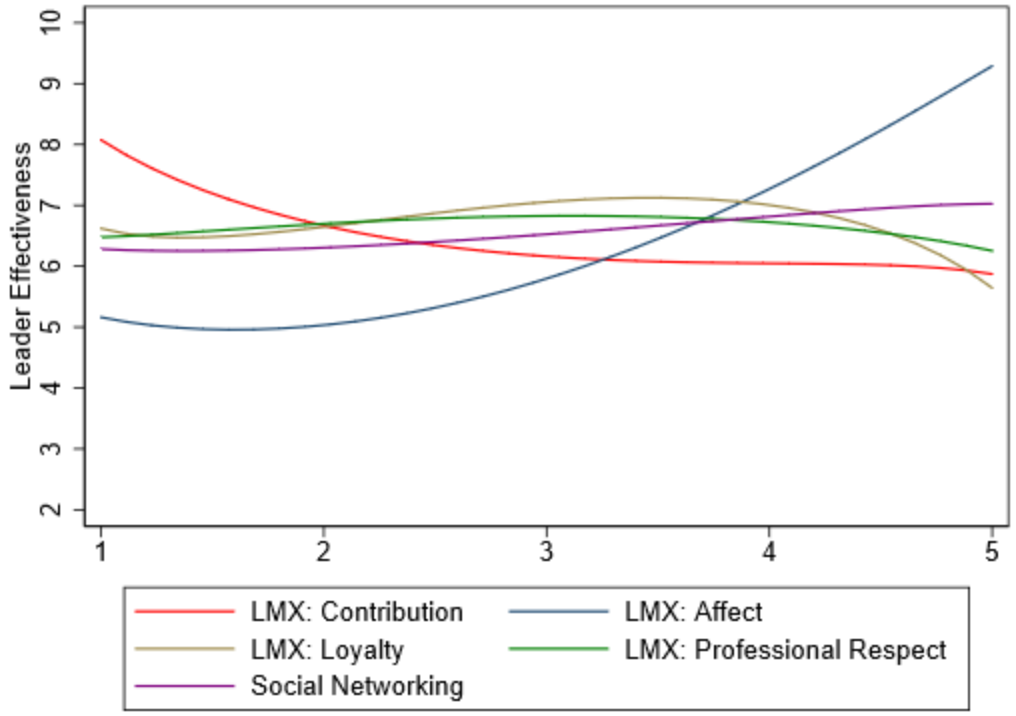


Figure A151.1. Judgment policy by leadership quality for Case 151 based on observed leader-effectiveness scores.

Case 151 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

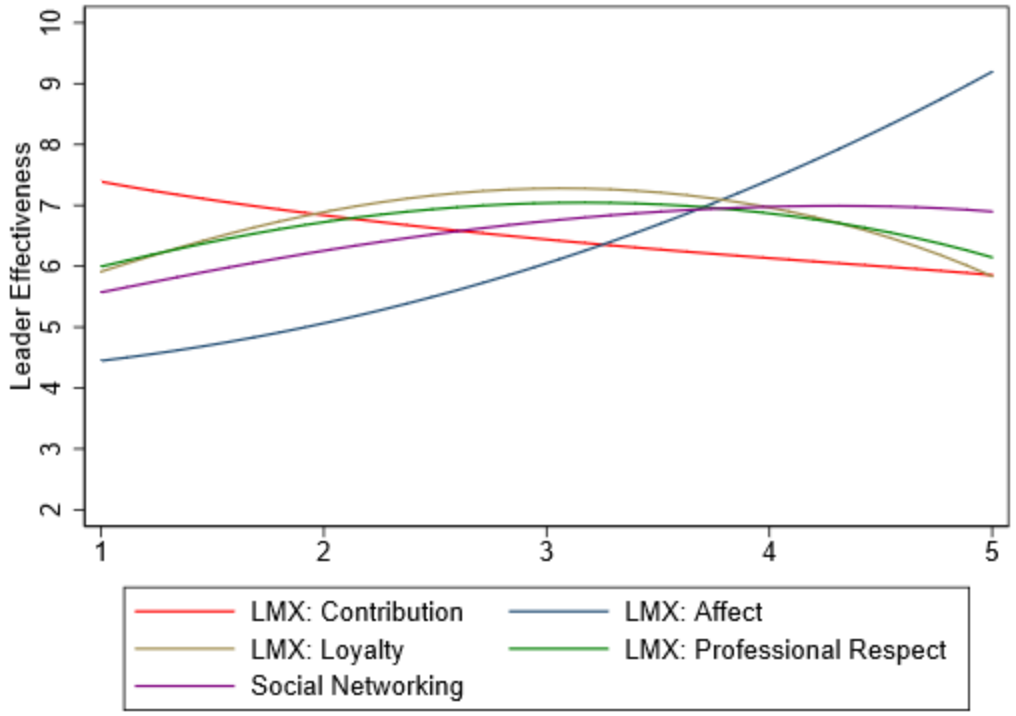


Figure A151.2. Judgment policy by leadership quality for Case 151 based on predicted leader-effectiveness scores from quadric regression.

Table A152.1

Case 152 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.11	1.64	0.07	.945	-3.27	3.49
contribution2	-0.02	0.27	-0.08	.934	-0.59	0.54
loyal	-2.17	1.76	-1.23	.229	-5.78	1.45
loyal2	0.38	0.29	1.31	.200	-0.21	0.96
affect	1.33	1.63	0.82	.422	-2.02	4.68
affect2	-0.18	0.27	-0.67	.506	-0.75	0.38
respect	3.13	1.59	1.97	.059	-0.13	6.39
respect2	-0.30	0.26	-1.13	.269	-0.84	0.24
network	-0.79	1.70	-0.46	.647	-4.29	2.71
network2	0.21	0.28	0.76	.453	-0.36	0.78

Note. $F_{(10, 26)} = 14.93$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .80$

Table A152.2

Case 152 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.11	0.30	-0.37	.715	-0.05
loyal	0.08	0.32	0.25	.802	0.03
affect	0.22	0.31	0.73	.473	0.10
respect	1.23	0.29	4.17	.000	0.53
network	0.47	0.33	1.43	.161	0.18

Note. $F_{(5, 31)} = 30.32$ ($p < .001$), $R^2 = .83$, Adjusted $R^2 = .80$

Case 152 Observed Judgment Policy of School Building Leader Effectiveness

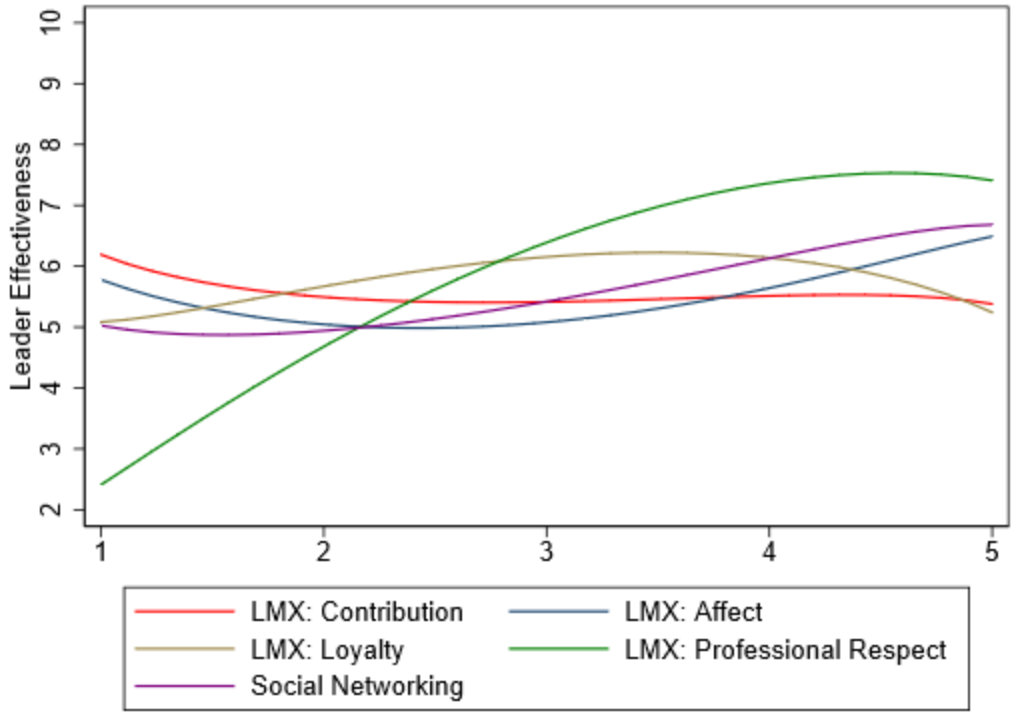


Figure A152.1. Judgment policy by leadership quality for Case 152 based on observed leader-effectiveness scores.

Case 152 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

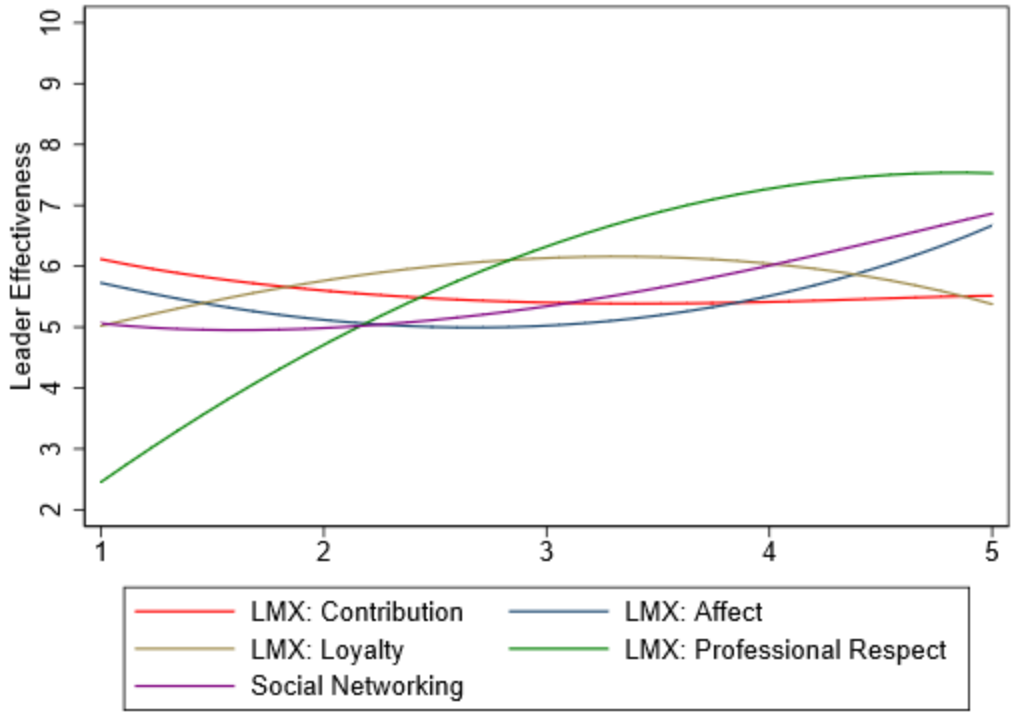


Figure A152.2. Judgment policy by leadership quality for Case 152 based on predicted leader-effectiveness scores from quadric regression.

Table A153.1

Case 153 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.58	1.56	-1.01	.320	-4.79	1.62
contribution2	0.29	0.26	1.12	.273	-0.24	0.83
loyal	-1.28	1.67	-0.77	.451	-4.70	2.15
loyal2	0.22	0.27	0.82	.417	-0.33	0.78
affect	4.41	1.55	2.85	.008	1.23	7.59
affect2	-0.65	0.26	-2.51	.018	-1.19	-0.12
respect	2.50	1.51	1.66	.109	-0.59	5.60
respect2	-0.31	0.25	-1.25	.223	-0.82	0.20
network	-2.01	1.62	-1.25	.224	-5.34	1.31
network2	0.33	0.26	1.26	.219	-0.21	0.87

Note. $F_{(10, 26)} = 11.14$ ($p < .001$), $R^2 = .81$, Adjusted $R^2 = .72$

Table A153.2

Case 153 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.09	0.31	0.27	.788	0.04
loyal	0.10	0.34	0.31	.758	0.05
affect	0.58	0.32	1.83	.077	0.29
respect	0.68	0.31	2.21	.034	0.33
network	0.09	0.34	0.26	.796	0.04

Note. $F_{(5, 31)} = 17.47$ ($p < .001$), $R^2 = .74$, Adjusted $R^2 = .70$

Case 153 Observed Judgment Policy of School Building Leader Effectiveness

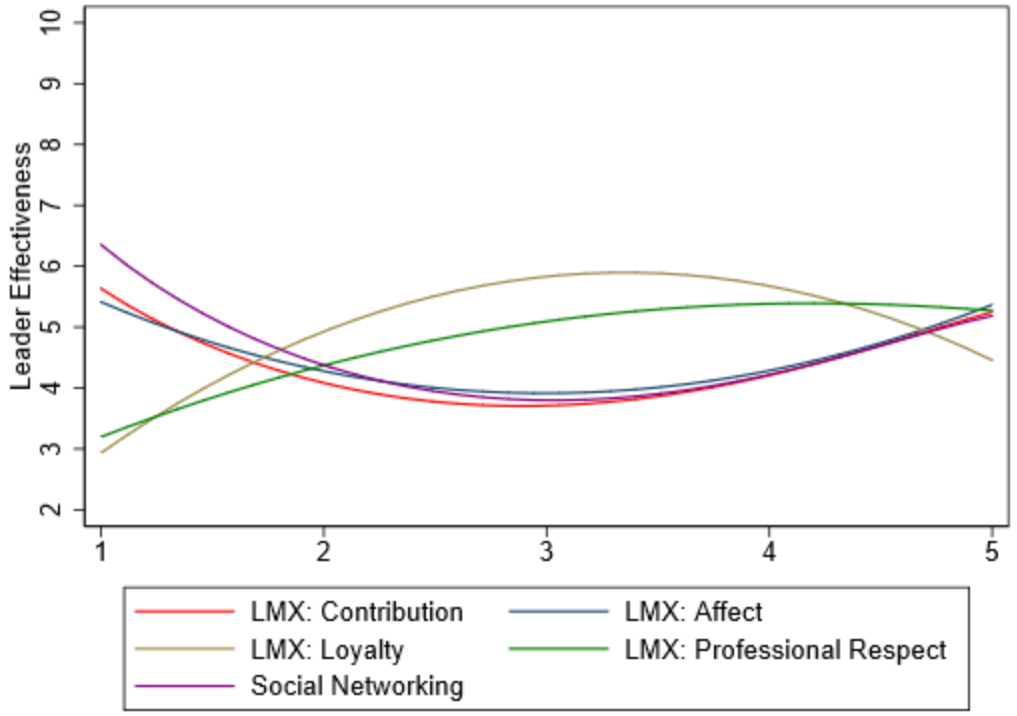


Figure A153.1. Judgment policy by leadership quality for Case 153 based on observed leader-effectiveness scores.

Case 153 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

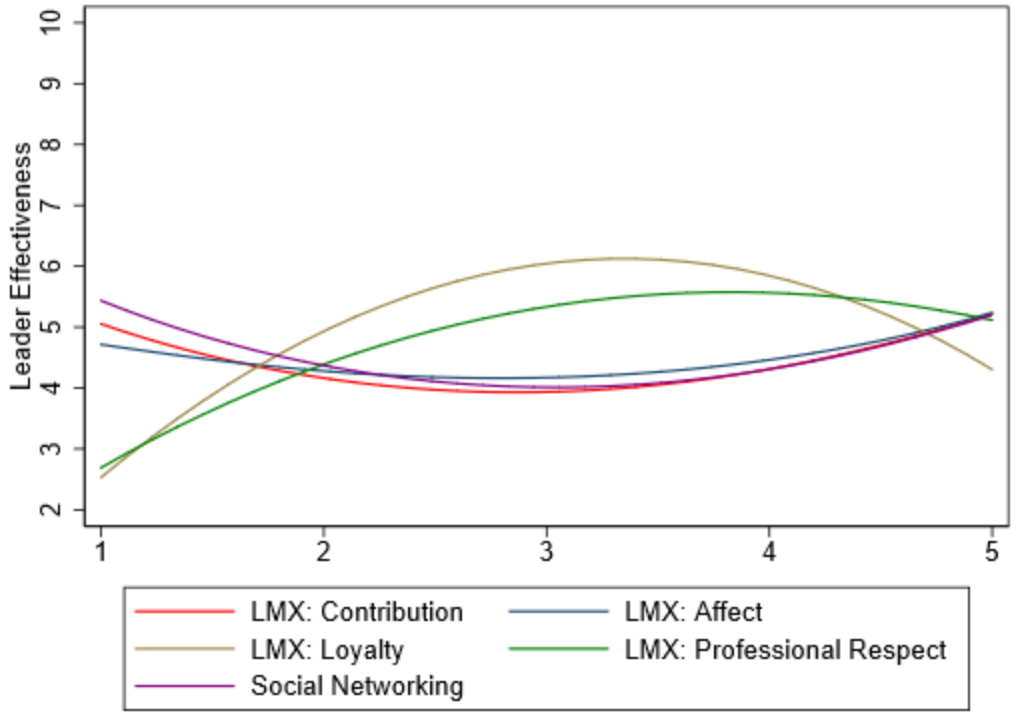


Figure A153.2. Judgment policy by leadership quality for Case 153 based on predicted leader-effectiveness scores from quadric regression.

Table A154.1

Case 154 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.68	0.97	0.69	.495	-1.33	2.68
contribution2	-0.08	0.16	-0.47	.640	-0.41	0.26
loyal	-0.19	1.04	-0.18	.860	-2.33	1.96
loyal2	0.02	0.17	0.12	.902	-0.33	0.37
affect	0.13	0.97	0.14	.891	-1.85	2.12
affect2	-0.02	0.16	-0.15	.881	-0.36	0.31
respect	2.53	0.94	2.69	.012	0.59	4.46
respect2	-0.31	0.16	-1.98	.058	-0.63	0.01
network	-0.69	1.01	-0.69	.499	-2.77	1.38
network2	0.18	0.16	1.10	.280	-0.16	0.52

Note. $F_{(10, 26)} = 31.02$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A154.2

Case 154 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.18	1.43	.162	0.22
loyal	0.03	0.20	0.15	.884	0.02
affect	0.10	0.19	0.53	.602	0.08
respect	0.74	0.18	4.13	.000	0.61
network	0.52	0.20	2.59	.015	0.39

Note. $F_{(5, 31)} = 60.04$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 154 Observed Judgment Policy of School Building Leader Effectiveness

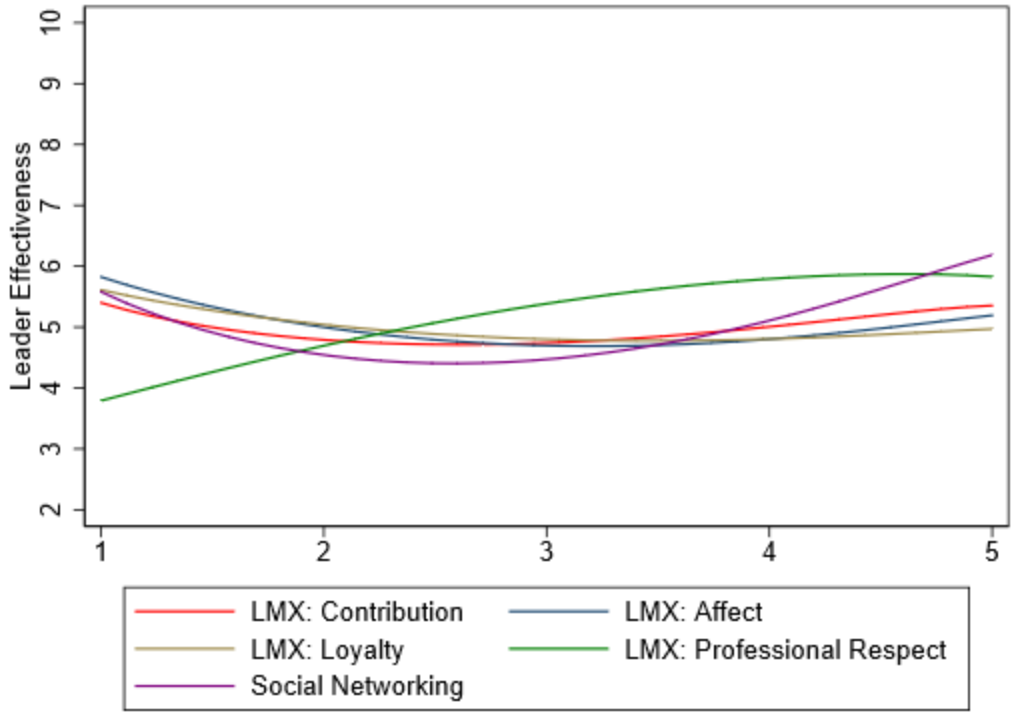


Figure A154.1. Judgment policy by leadership quality for Case 154 based on observed leader-effectiveness scores.

Case 154 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

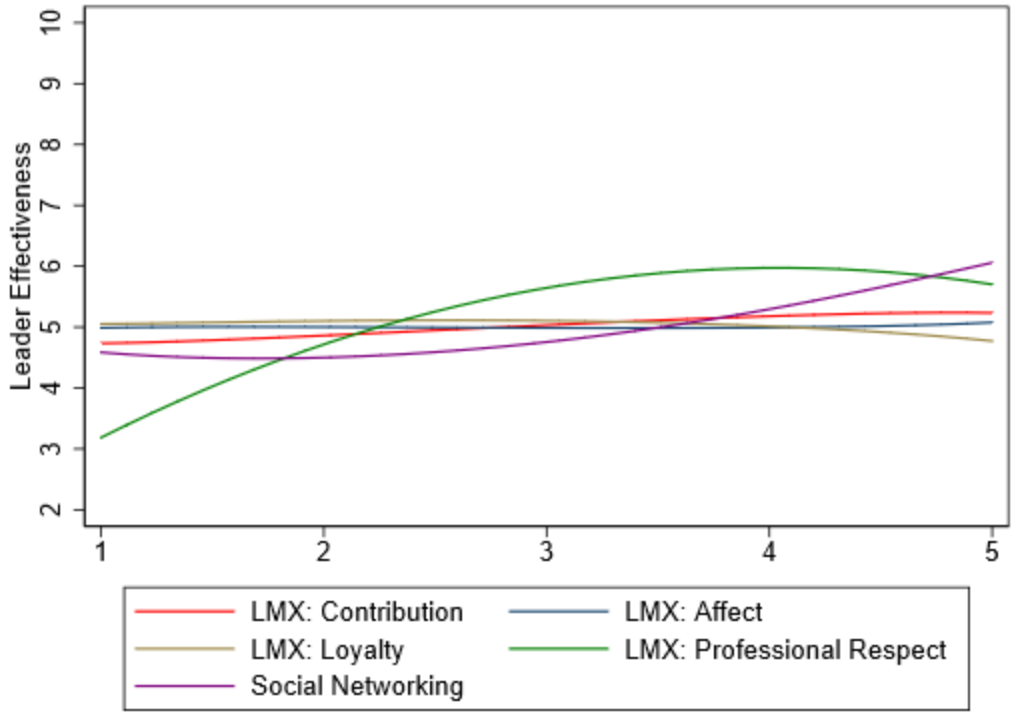


Figure A154.2. Judgment policy by leadership quality for Case 154 based on predicted leader-effectiveness scores from quadric regression.

Table A155.1

Case 155 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.34	1.18	-0.29	.777	-2.76	2.09
contribution2	0.08	0.20	0.42	.679	-0.32	0.49
loyal	-1.88	1.26	-1.49	.147	-4.47	0.71
loyal2	0.30	0.20	1.49	.149	-0.12	0.72
affect	1.92	1.17	1.65	.112	-0.48	4.33
affect2	-0.32	0.20	-1.61	.120	-0.72	0.09
respect	1.56	1.14	1.37	.182	-0.78	3.90
respect2	-0.10	0.19	-0.55	.590	-0.49	0.28
network	1.24	1.22	1.01	.321	-1.27	3.75
network2	-0.15	0.20	-0.75	.460	-0.56	0.26

Note. $F_{(10, 26)} = 26.12$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A155.2

Case 155 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.21	0.22	0.94	.355	0.12
loyal	0.04	0.24	0.16	.877	0.02
affect	0.14	0.22	0.61	.545	0.08
respect	1.02	0.22	4.76	.000	0.61
network	0.42	0.24	1.73	.093	0.22

Note. $F_{(5, 31)} = 51.36$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .88$

Case 155 Observed Judgment Policy of School Building Leader Effectiveness

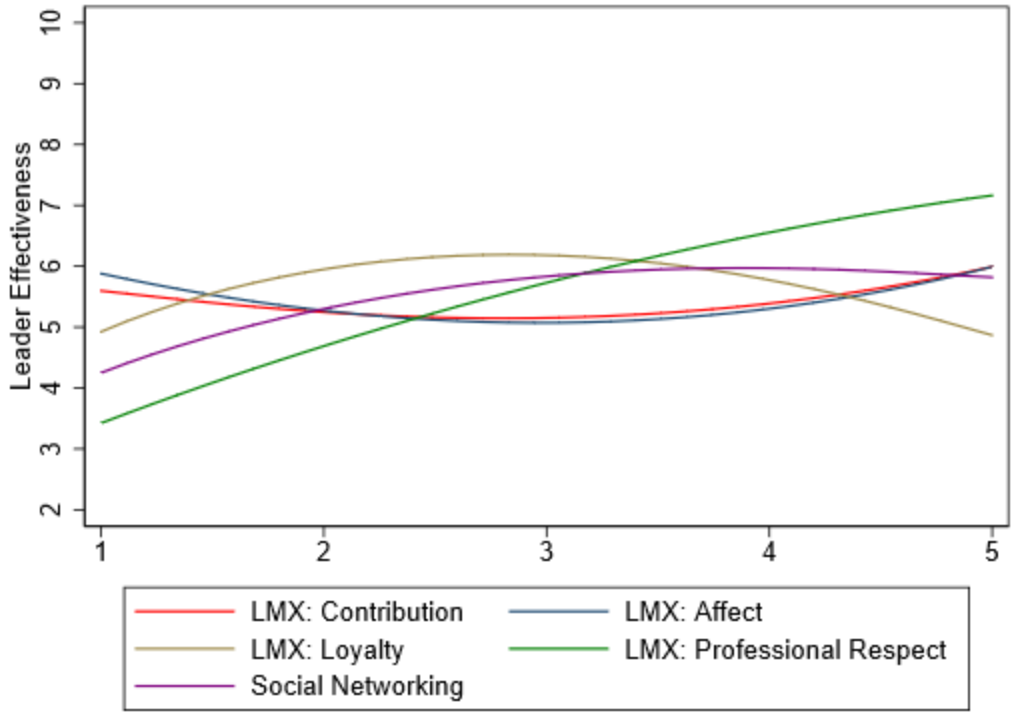


Figure A155.1. Judgment policy by leadership quality for Case 155 based on observed leader-effectiveness scores.

Case 155 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

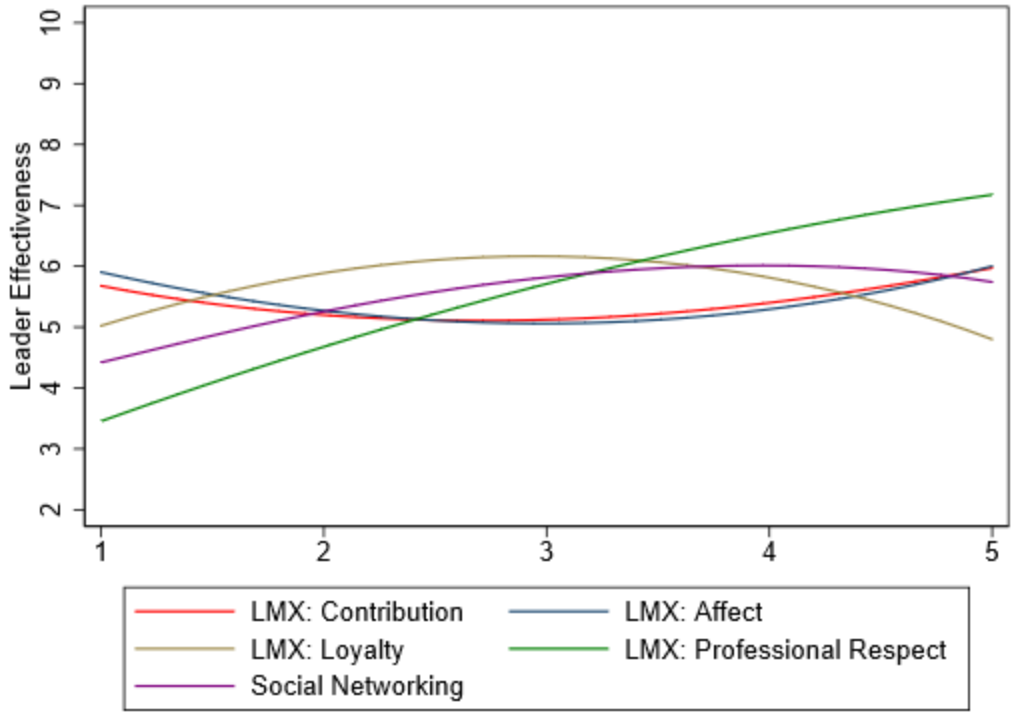


Figure A155.2. Judgment policy by leadership quality for Case 155 based on predicted leader-effectiveness scores from quadric regression.

Table A156.1

Case 156 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.24	1.02	1.22	.235	-0.86	3.35
contribution2	-0.18	0.17	-1.07	.296	-0.53	0.17
loyal	-1.46	1.09	-1.34	.193	-3.71	0.79
loyal2	0.28	0.18	1.56	.132	-0.09	0.64
affect	0.44	1.01	0.43	.669	-1.65	2.52
affect2	-0.09	0.17	-0.52	.610	-0.44	0.26
respect	0.64	0.99	0.65	.524	-1.39	2.67
respect2	0.04	0.16	0.27	.791	-0.29	0.38
network	1.08	1.06	1.02	.317	-1.10	3.26
network2	-0.11	0.17	-0.64	.531	-0.46	0.24

Note. $F_{(10, 26)} = 30.88$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A156.2

Case 156 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.19	1.01	.319	0.12
loyal	0.24	0.20	1.19	.244	0.15
affect	-0.04	0.19	-0.20	.839	-0.02
respect	0.89	0.18	4.88	.000	0.57
network	0.44	0.20	2.18	.037	0.26

Note. $F_{(5, 31)} = 64.72$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 156 Observed Judgment Policy of School Building Leader Effectiveness

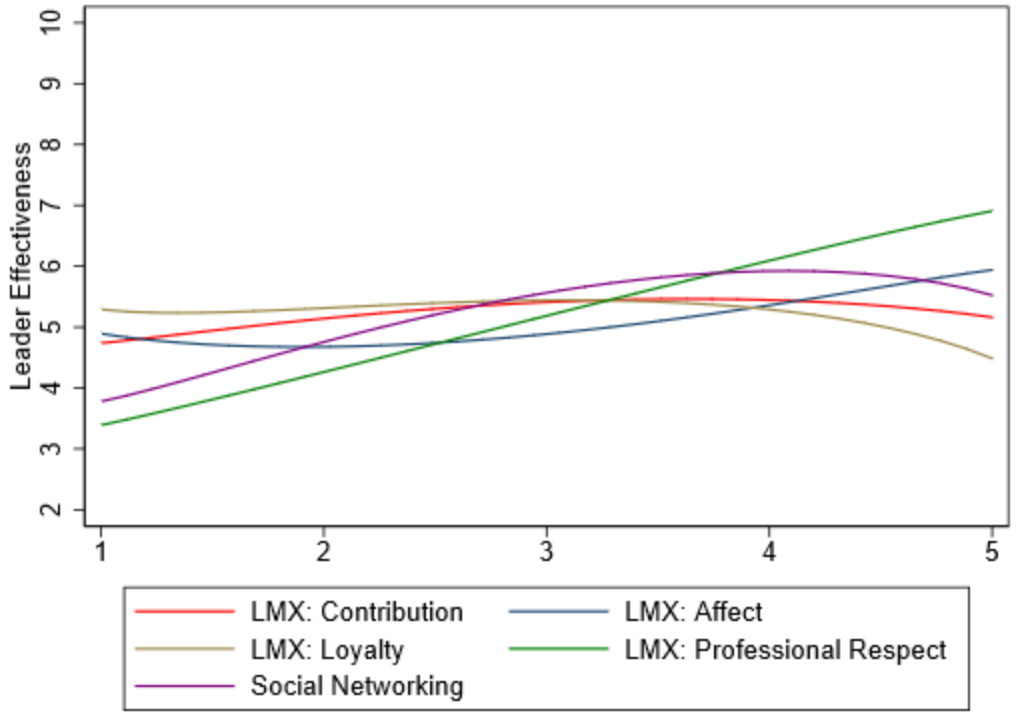


Figure A156.1. Judgment policy by leadership quality for Case 156 based on observed leader-effectiveness scores.

Case 156 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

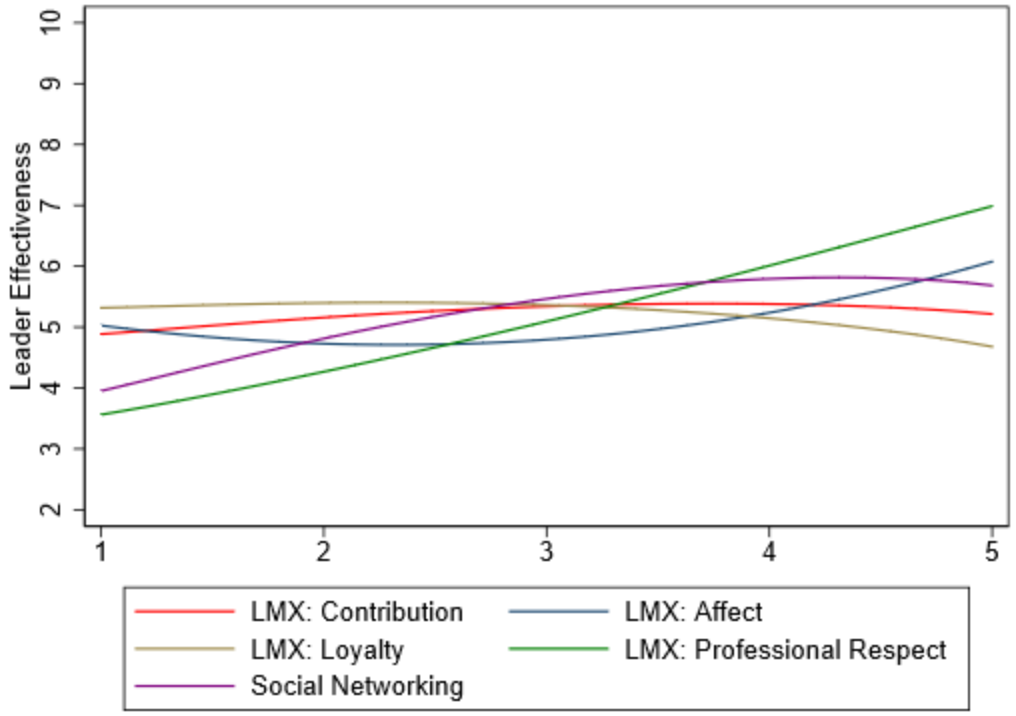


Figure A156.2. Judgment policy by leadership quality for Case 156 based on predicted leader-effectiveness scores from quadric regression.

Table A157.1

Case 157 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
Contribution	0.12	0.77	0.16	.874	-1.47	1.72
contribution2	0.01	0.13	0.07	.944	-0.26	0.28
loyal	-1.00	0.83	-1.21	.237	-2.71	0.70
loyal2	0.18	0.13	1.37	.183	-0.09	0.46
affect	0.11	0.77	0.14	.887	-1.47	1.69
affect2	0.00	0.13	0.00	.996	-0.26	0.27
respect	1.36	0.75	1.81	.081	-0.18	2.89
respect2	-0.09	0.12	-0.74	.467	-0.35	0.16
network	1.52	0.80	1.89	.070	-0.13	3.16
network2	-0.21	0.13	-1.64	.113	-0.48	0.05

Note. $F_{(10, 26)} = 51.45$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A157.2

Case 157 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.24	0.14	1.70	.098	0.20
loyal	0.17	0.15	1.14	.264	0.13
affect	0.17	0.15	1.18	.246	0.14
respect	0.85	0.14	6.08	.000	0.68
network	0.25	0.16	1.61	.117	0.18

Note. $F_{(5, 31)} = 103.85$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .94$

Case 157 Observed Judgment Policy of School Building Leader Effectiveness

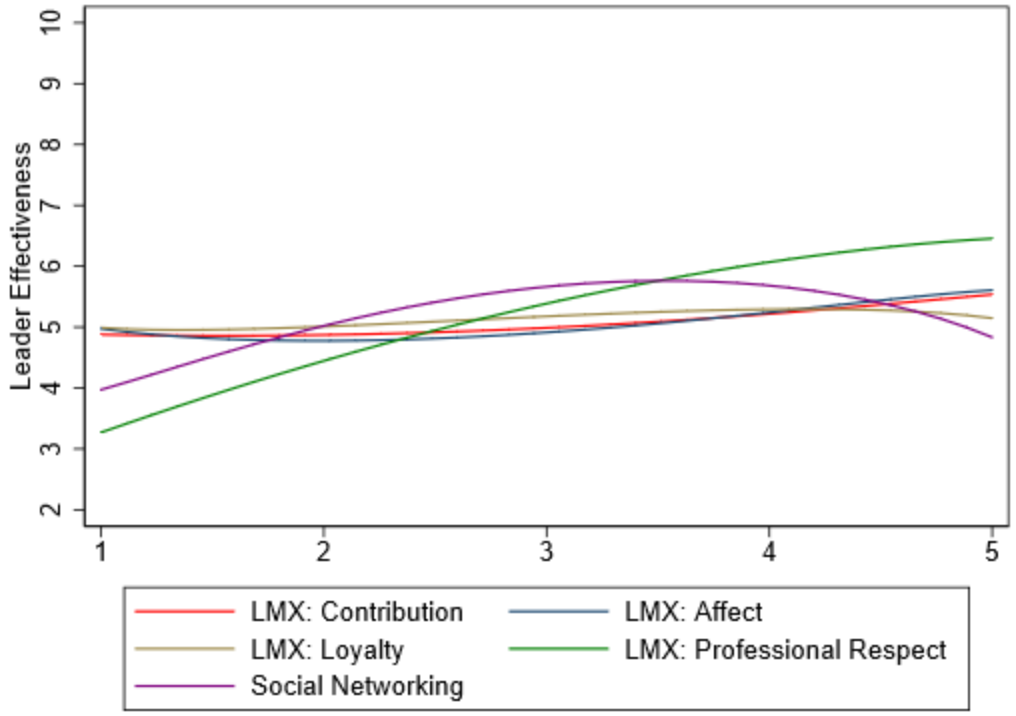


Figure A157.1. Judgment policy by leadership quality for Case 157 based on observed leader-effectiveness scores.

Case 157 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

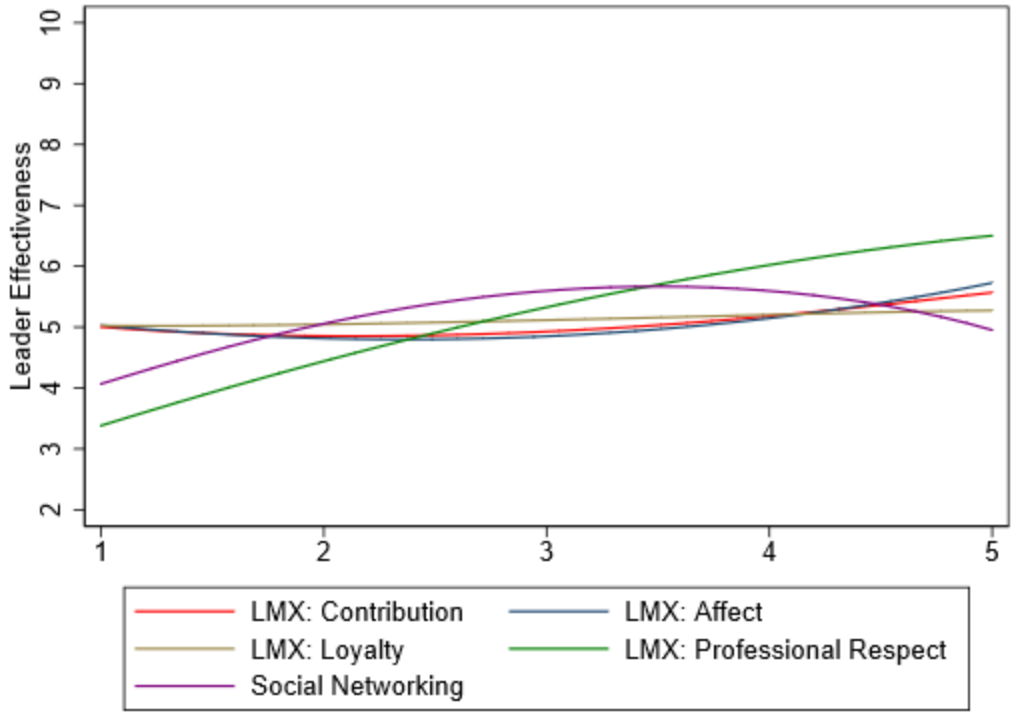


Figure A157.2. Judgment policy by leadership quality for Case 157 based on predicted leader-effectiveness scores from quadric regression.

Table A158.1

Case 158 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.92	1.31	-0.71	.487	-3.62	1.77
contribution2	0.15	0.22	0.67	.510	-0.30	0.60
loyal	-2.94	1.40	-2.10	.046	-5.82	-0.06
loyal2	0.49	0.23	2.16	.040	0.02	0.96
affect	1.50	1.30	1.15	.259	-1.17	4.17
affect2	-0.29	0.22	-1.32	.197	-0.74	0.16
respect	1.99	1.27	1.58	.127	-0.61	4.60
respect2	-0.15	0.21	-0.71	.481	-0.58	0.28
network	3.36	1.36	2.47	.020	0.57	6.15
network2	-0.43	0.22	-1.94	.064	-0.88	0.03

Note. $F_{(10, 26)} = 30.84$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A158.2

Case 158 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.05	0.26	0.20	.840	0.02
loyal	0.15	0.28	0.53	.597	0.07
affect	-0.10	0.26	-0.38	.706	-0.05
respect	1.20	0.26	4.70	.000	0.54
network	0.85	0.28	2.99	.005	0.35

Note. $F_{(5, 31)} = 52.80$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 158 Observed Judgment Policy of School Building Leader Effectiveness

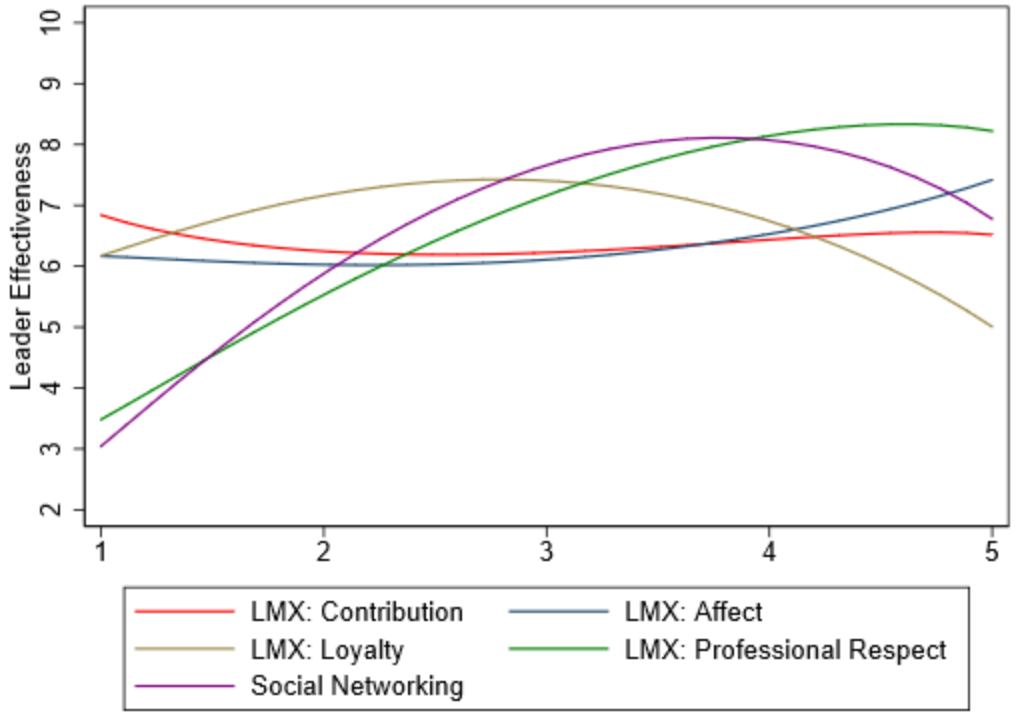


Figure A158.1. Judgment policy by leadership quality for Case 158 based on observed leader-effectiveness scores.

Case 158 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

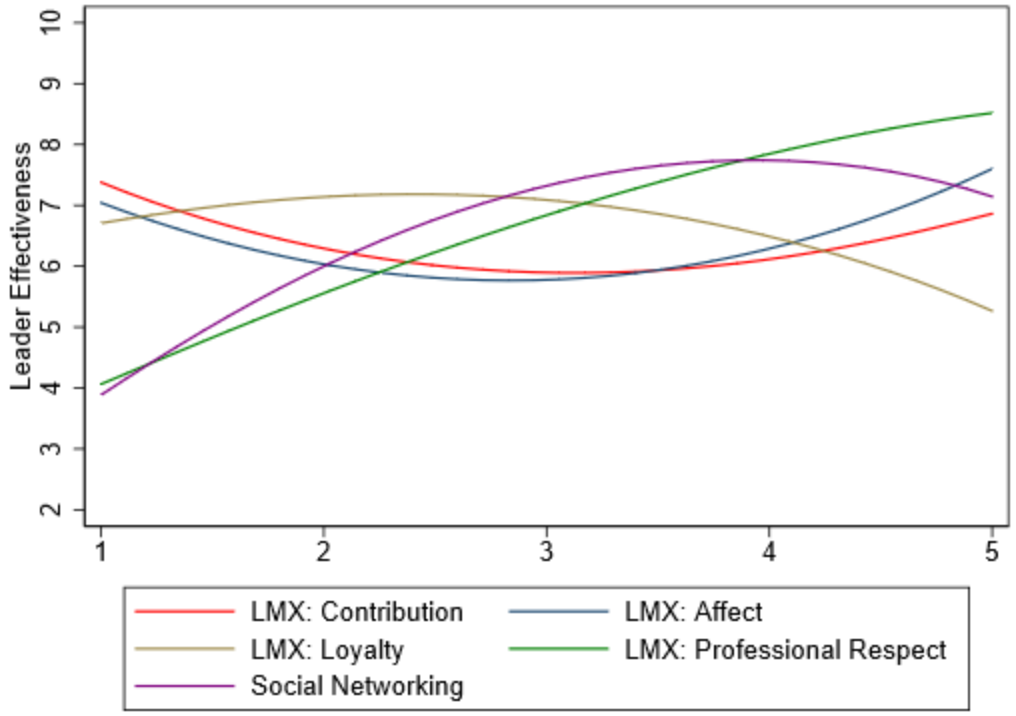


Figure A158.2. Judgment policy by leadership quality for Case 158 based on predicted leader-effectiveness scores from quadric regression.

Table A159.1

Case 159 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.98	1.46	-0.67	.506	-3.97	2.01
contribution2	0.19	0.24	0.80	.431	-0.31	0.69
loyal	0.89	1.56	0.57	.571	-2.31	4.09
loyal2	-0.17	0.25	-0.68	.505	-0.69	0.35
affect	3.07	1.44	2.12	.043	0.10	6.03
affect2	-0.51	0.24	-2.12	.044	-1.01	-0.02
respect	2.13	1.41	1.51	.142	-0.76	5.02
respect2	-0.24	0.23	-1.04	.306	-0.72	0.24
network	-1.64	1.51	-1.09	.286	-4.74	1.46
network2	0.24	0.25	0.97	.340	-0.27	0.74

Note. $F_{(10, 26)} = 13.30$ ($p < .001$), $R^2 = .84$, Adjusted $R^2 = .77$

Table A159.2

Case 159 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.28	0.29	0.98	.335	0.16
loyal	0.03	0.31	0.09	.928	0.02
affect	0.23	0.29	0.79	.438	0.13
respect	0.95	0.28	3.36	.002	0.53
network	0.07	0.32	0.21	.837	0.03

Note. $F_{(5, 31)} = 21.84$ ($p < .001$), $R^2 = .78$, Adjusted $R^2 = .74$

Case 159 Observed Judgment Policy of School Building Leader Effectiveness

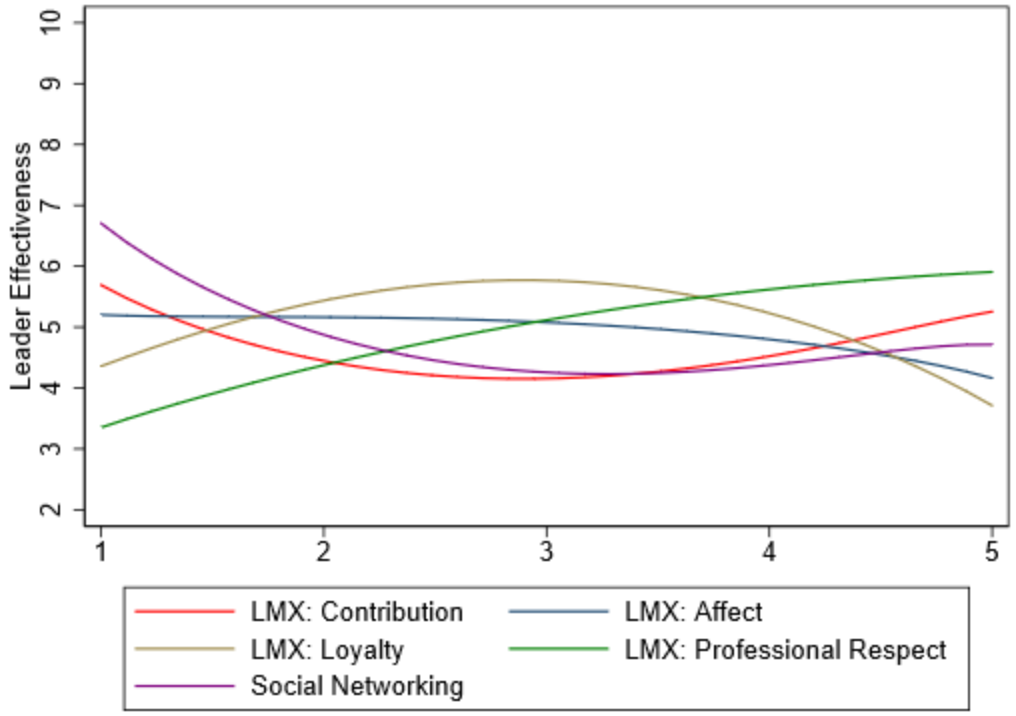


Figure A159.1. Judgment policy by leadership quality for Case 159 based on observed leader-effectiveness scores.

Case 159 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

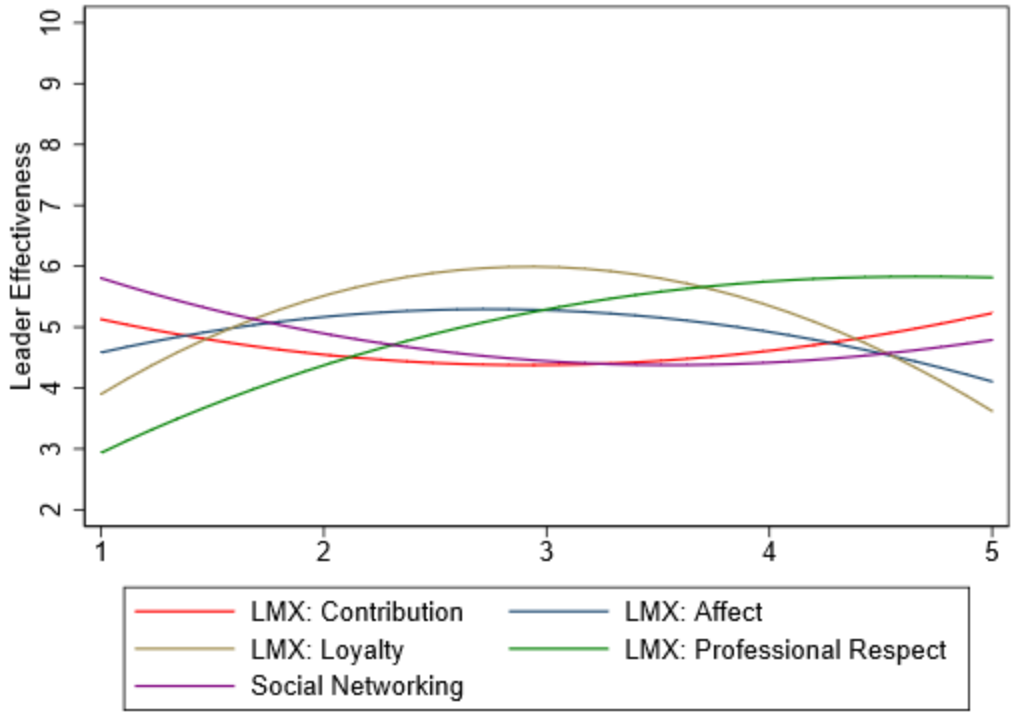


Figure A159.2. Judgment policy by leadership quality for Case 159 based on predicted leader-effectiveness scores from quadric regression.

Table A160.1

Case 160 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.80	0.66	-1.22	.235	-2.16	0.55
contribution2	0.16	0.11	1.48	.152	-0.06	0.39
loyal	-0.87	0.70	-1.23	.230	-2.31	0.58
loyal2	0.16	0.11	1.37	.182	-0.08	0.39
affect	0.13	0.65	0.20	.842	-1.21	1.48
affect2	-0.04	0.11	-0.32	.748	-0.26	0.19
respect	2.26	0.64	3.55	.001	0.95	3.57
respect2	-0.09	0.11	-0.83	.412	-0.30	0.13
network	1.18	0.68	1.72	.097	-0.23	2.58
network2	-0.20	0.11	-1.81	.082	-0.43	0.03

Note. $F_{(10, 26)} = 100.60$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A160.2

Case 160 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.13	1.46	.153	0.10
loyal	0.10	0.14	0.77	.446	0.05
affect	-0.08	0.13	-0.63	.536	-0.04
respect	1.75	0.12	14.05	.000	0.90
network	-0.06	0.14	-0.40	.692	-0.03

Note. $F_{(5, 31)} = 187.54$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Case 160 Observed Judgment Policy of School Building Leader Effectiveness

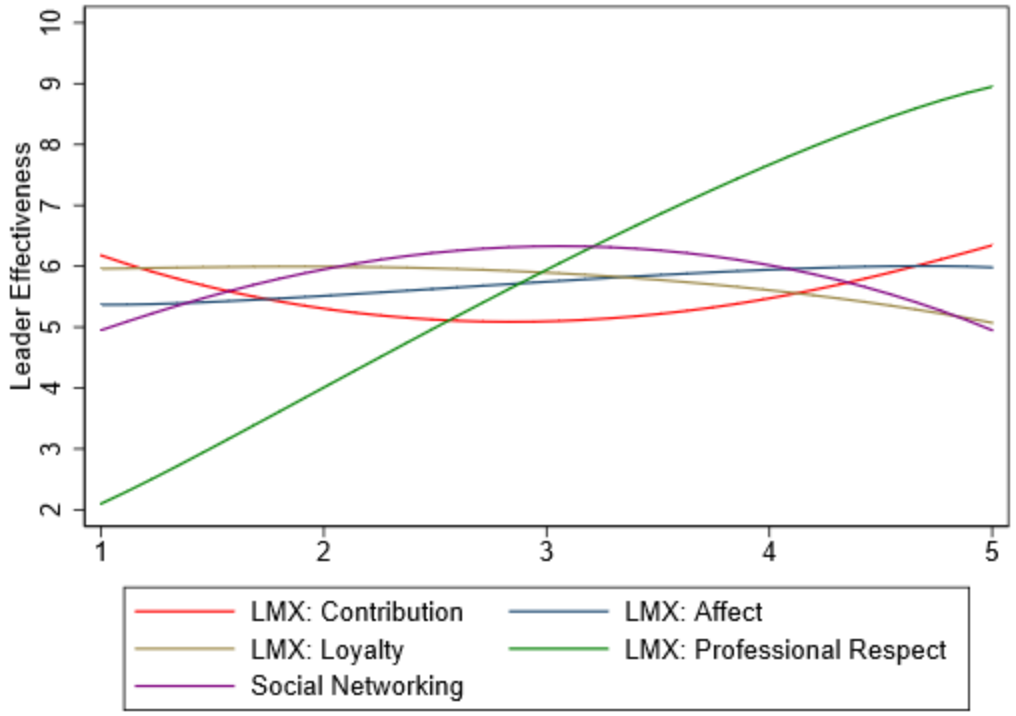


Figure A160.1. Judgment policy by leadership quality for Case 160 based on observed leader-effectiveness scores.

Case 160 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

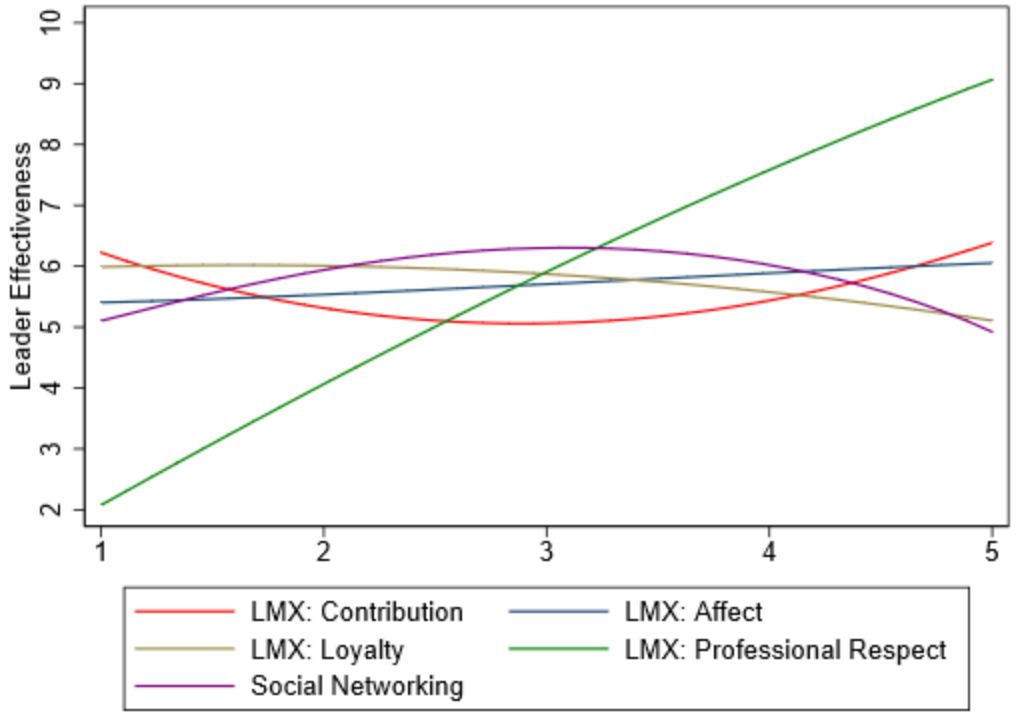


Figure A160.2. Judgment policy by leadership quality for Case 160 based on predicted leader-effectiveness scores from quadric regression.

Table A161.1

Case 161 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.95	0.50	-1.90	.069	-1.98	0.08
contribution2	0.19	0.08	2.23	.034	0.01	0.36
loyal	-1.21	0.53	-2.26	.032	-2.31	-0.11
loyal2	0.19	0.09	2.18	.039	0.01	0.37
affect	0.46	0.50	0.93	.360	-0.56	1.48
affect2	-0.06	0.08	-0.67	.511	-0.23	0.12
respect	1.80	0.48	3.72	.001	0.81	2.79
respect2	-0.08	0.08	-0.99	.330	-0.24	0.08
network	1.36	0.52	2.62	.015	0.29	2.42
network2	-0.15	0.08	-1.80	.083	-0.33	0.02

Note. $F_{(10, 26)} = 146.99$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .98$

Table A161.2

Case 161 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.14	0.11	1.29	.206	0.09
loyal	-0.08	0.11	-0.73	.473	-0.05
affect	0.09	0.11	0.83	.413	0.06
respect	1.28	0.10	12.36	.000	0.84
network	0.38	0.12	3.31	.002	0.23

Note. $F_{(5, 31)} = 226.10$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .97$

Case 161 Observed Judgment Policy of School Building Leader Effectiveness

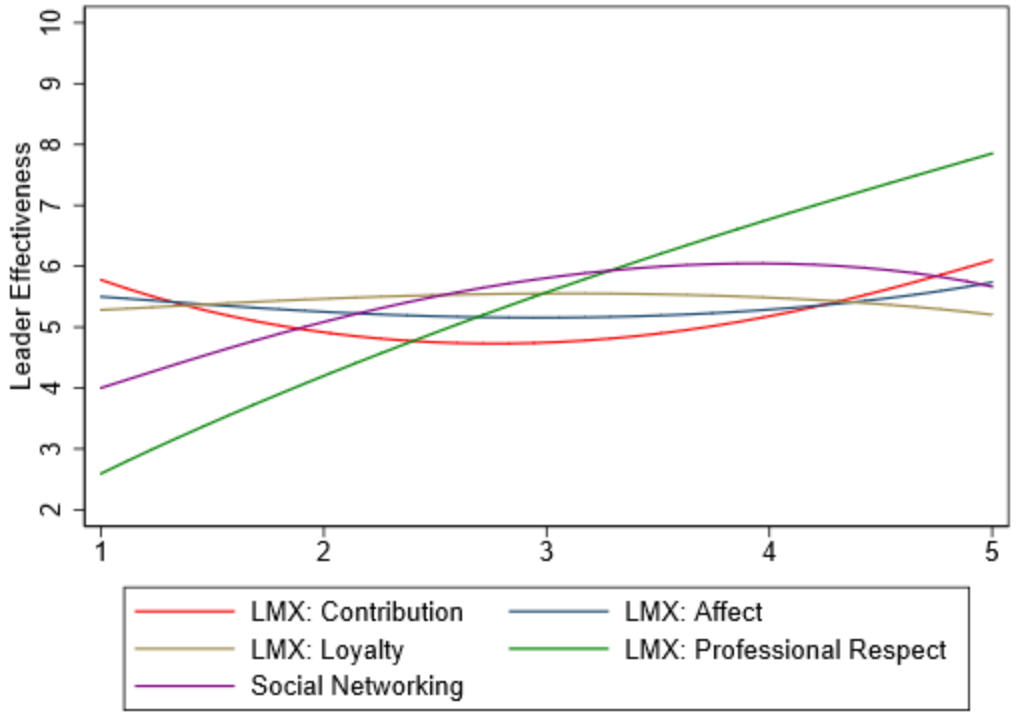


Figure A161.1. Judgment policy by leadership quality for Case 161 based on observed leader-effectiveness scores.

Case 161 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

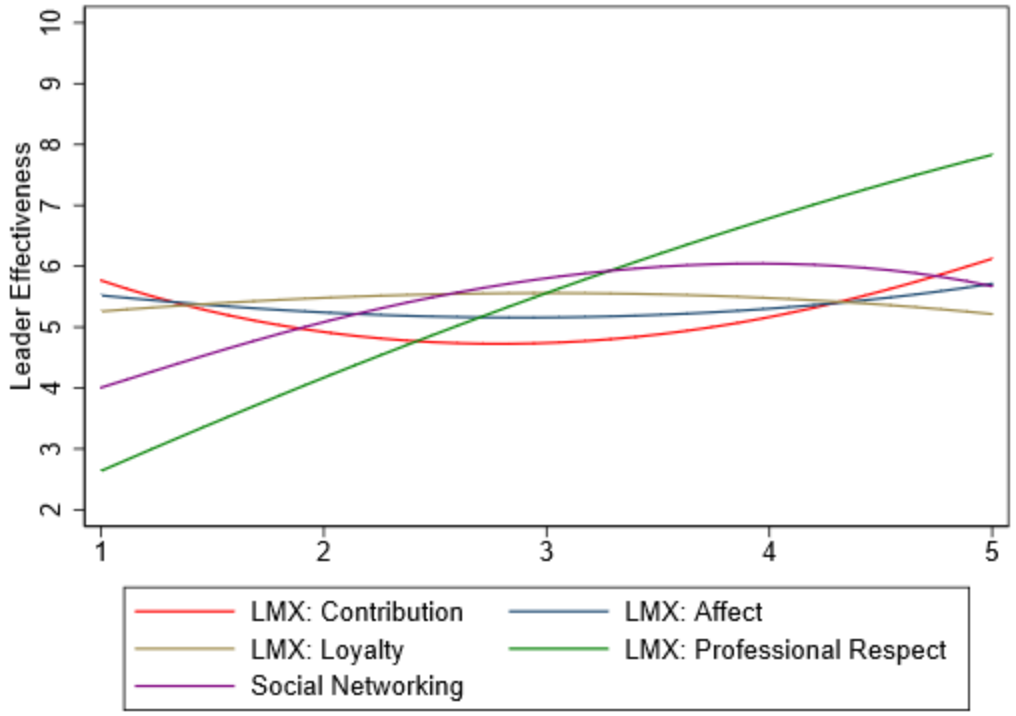


Figure A161.2. Judgment policy by leadership quality for Case 161 based on predicted leader-effectiveness scores from quadric regression.

Table A162.1

Case 162 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.13	0.91	0.15	.883	-1.73	2.00
contribution2	-0.06	0.15	-0.42	.681	-0.37	0.25
loyal	-3.46	0.97	-3.57	.001	-5.45	-1.47
loyal2	0.55	0.16	3.51	.002	0.23	0.88
affect	0.52	0.90	0.57	.571	-1.33	2.36
affect2	-0.07	0.15	-0.46	.653	-0.38	0.24
respect	2.49	0.88	2.84	.009	0.69	4.29
respect2	-0.28	0.14	-1.95	.062	-0.58	0.02
network	2.96	0.94	3.15	.004	1.03	4.89
network2	-0.29	0.15	-1.92	.065	-0.61	0.02

Note. $F_{(10, 26)} = 58.24$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A162.2

Case 162 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.16	0.20	-0.82	.419	-0.09
loyal	-0.02	0.21	-0.07	.943	-0.01
affect	0.21	0.20	1.03	.309	0.11
respect	0.80	0.19	4.14	.000	0.44
network	1.23	0.22	5.67	.000	0.61

Note. $F_{(5, 31)} = 82.34$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 162 Observed Judgment Policy of School Building Leader Effectiveness

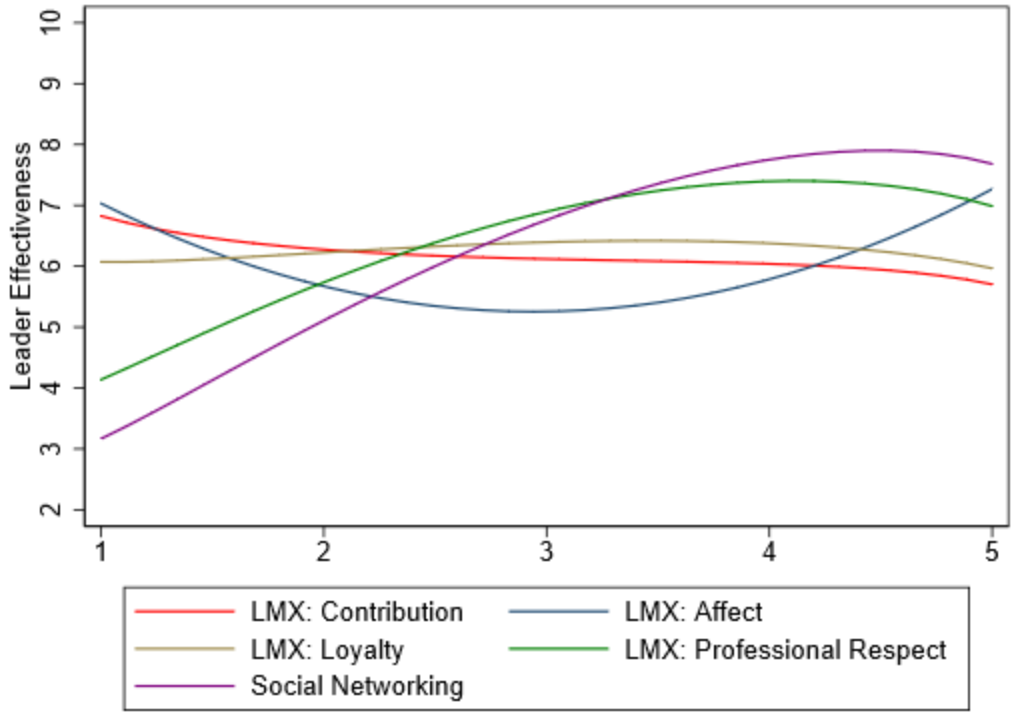


Figure A162.1. Judgment policy by leadership quality for Case 162 based on observed leader-effectiveness scores.

Case 162 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

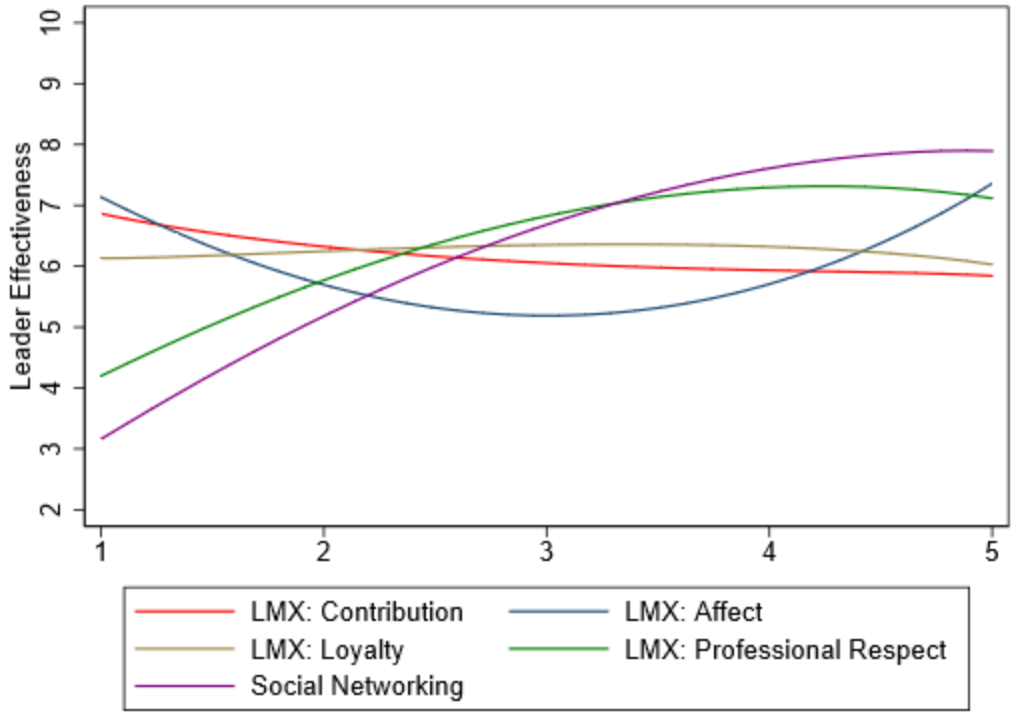


Figure A162.2. Judgment policy by leadership quality for Case 162 based on predicted leader-effectiveness scores from quadric regression.

Table A163.1

Case 163 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.04	0.86	1.22	.235	-0.72	2.80
contribution2	-0.14	0.14	-0.98	.335	-0.44	0.15
loyal	-0.64	0.92	-0.70	.492	-2.52	1.24
loyal2	0.10	0.15	0.66	.517	-0.21	0.40
affect	0.51	0.85	0.60	.554	-1.24	2.25
affect2	-0.04	0.14	-0.28	.781	-0.33	0.25
respect	1.21	0.83	1.46	.155	-0.49	2.91
respect2	0.04	0.14	0.29	.773	-0.24	0.32
network	-0.41	0.89	-0.47	.645	-2.24	1.41
network2	0.10	0.14	0.70	.490	-0.20	0.40

Note. $F_{(10, 26)} = 55.13$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A163.2

Case 163 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.17	0.15	1.10	.281	0.10
loyal	-0.08	0.16	-0.48	.634	-0.05
affect	0.26	0.15	1.66	.107	0.16
respect	1.39	0.15	9.34	.000	0.84
network	0.18	0.17	1.10	.281	0.10

Note. $F_{(5, 31)} = 122.35$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 163 Observed Judgment Policy of School Building Leader Effectiveness

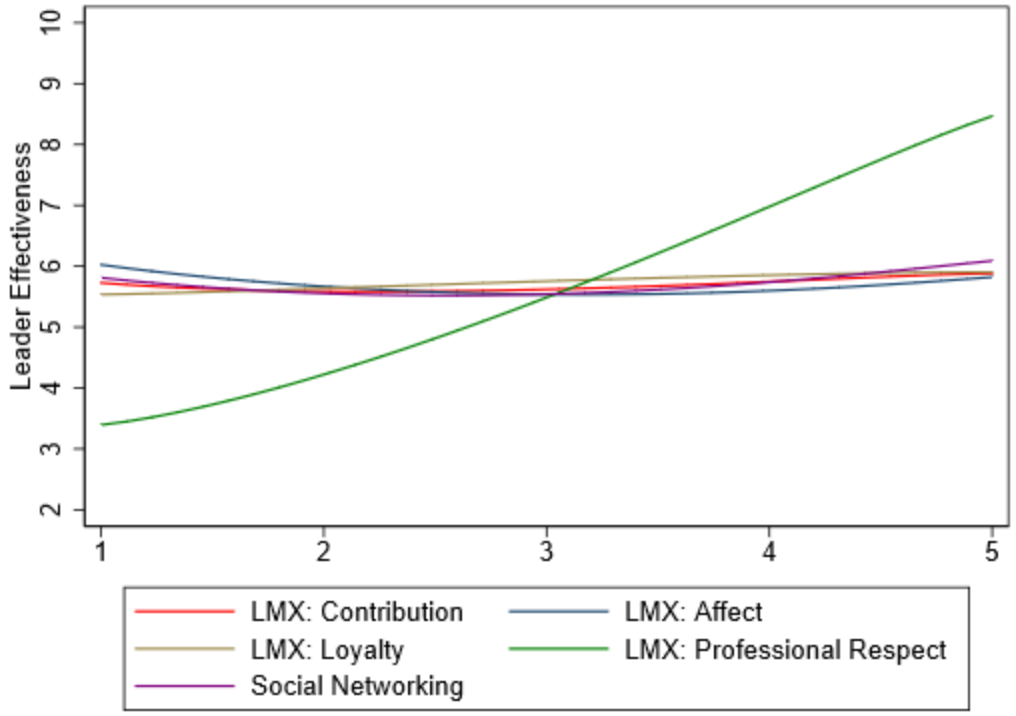


Figure A163.1. Judgment policy by leadership quality for Case 163 based on observed leader-effectiveness scores.

Case 163 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

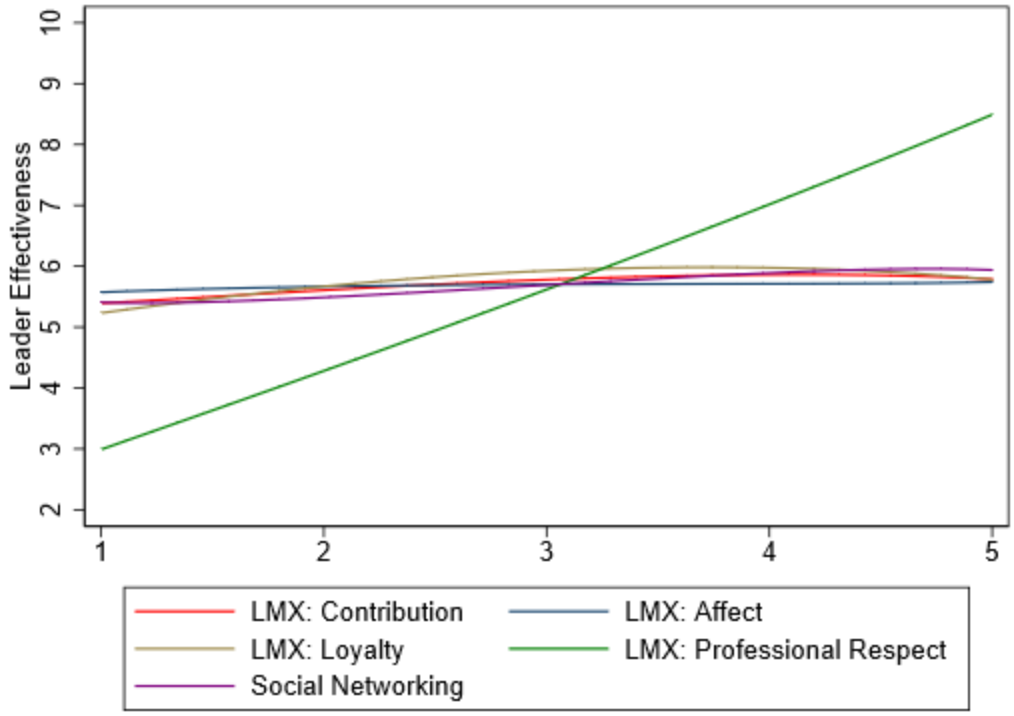


Figure A163.2. Judgment policy by leadership quality for Case 163 based on predicted leader-effectiveness scores from quadric regression.

Table A164.1

Case 164 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.12	0.96	0.12	.906	-1.87	2.10
contribution2	-0.03	0.16	-0.20	.846	-0.36	0.30
loyal	-0.89	1.03	-0.87	.394	-3.01	1.23
loyal2	0.17	0.17	1.00	.328	-0.18	0.51
affect	0.29	0.96	0.30	.765	-1.68	2.25
affect2	-0.07	0.16	-0.43	.668	-0.40	0.26
respect	1.45	0.93	1.55	.133	-0.47	3.36
respect2	-0.13	0.15	-0.83	.412	-0.45	0.19
network	1.50	1.00	1.50	.146	-0.55	3.55
network2	-0.17	0.16	-1.03	.311	-0.50	0.17

Note. $F_{(10, 26)} = 30.17$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A164.2

Case 164 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.02	0.18	0.14	.888	0.02
loyal	0.22	0.19	1.19	.242	0.16
affect	-0.01	0.18	-0.05	.959	-0.01
respect	0.77	0.17	4.51	.000	0.58
network	0.58	0.19	3.03	.005	0.39

Note. $F_{(5, 31)} = 63.03$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 164 Observed Judgment Policy of School Building Leader Effectiveness

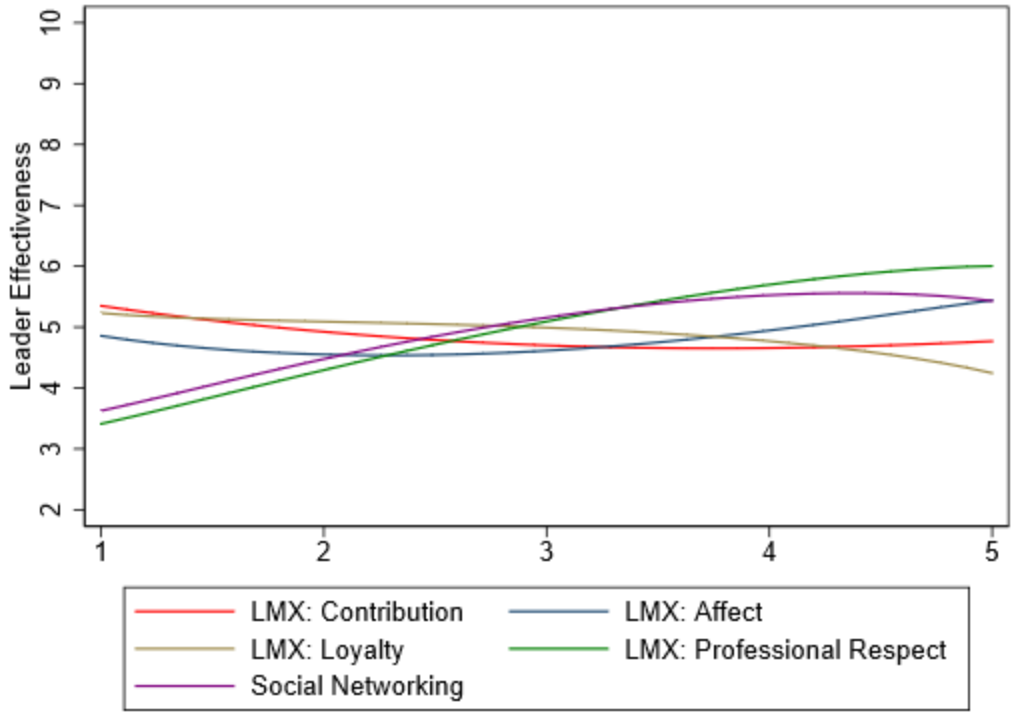


Figure A164.1. Judgment policy by leadership quality for Case 164 based on observed leader-effectiveness scores.

Case 164 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

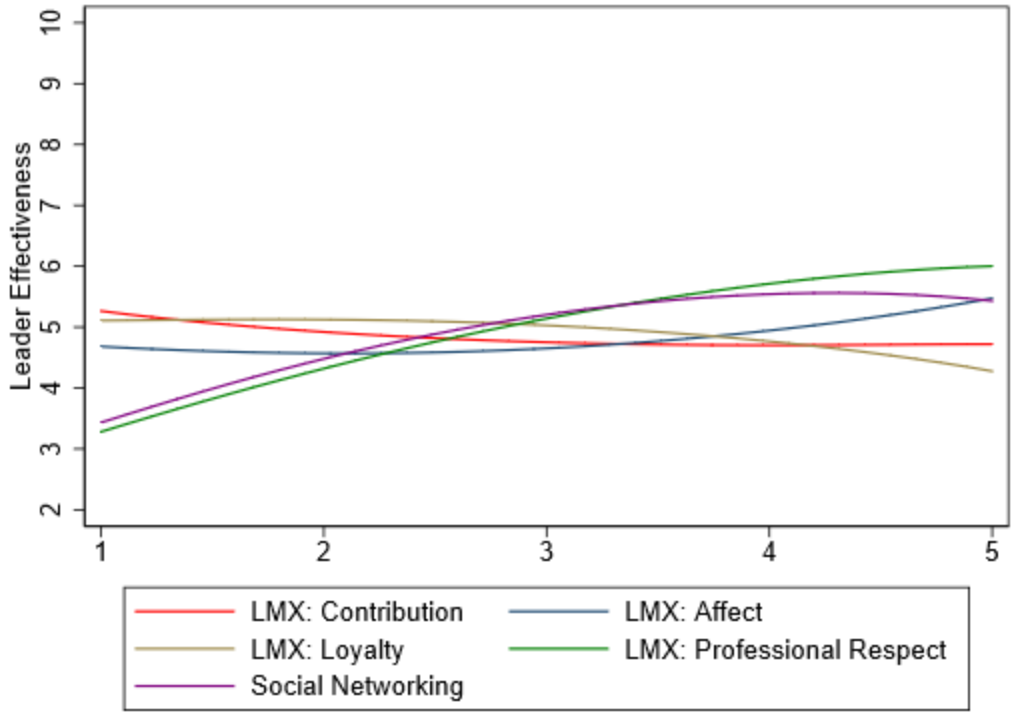


Figure A164.2. Judgment policy by leadership quality for Case 164 based on predicted leader-effectiveness scores from quadric regression.

Table A165.1

Case 165 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.71	0.84	0.84	.407	-1.02	2.43
contribution2	-0.06	0.14	-0.43	.673	-0.35	0.23
loyal	-1.24	0.90	-1.38	.179	-3.08	0.61
loyal2	0.21	0.15	1.47	.154	-0.09	0.51
affect	0.17	0.83	0.20	.839	-1.54	1.88
affect2	-0.04	0.14	-0.30	.768	-0.33	0.25
respect	1.97	0.81	2.44	.022	0.31	3.64
respect2	-0.14	0.13	-1.05	.305	-0.42	0.14
network	1.23	0.87	1.41	.169	-0.56	3.01
network2	-0.17	0.14	-1.20	.240	-0.46	0.12

Note. $F_{(10, 26)} = 68.89$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A165.2

Case 165 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.44	0.16	2.81	.008	0.31
loyal	0.15	0.17	0.92	.365	0.10
affect	0.03	0.16	0.17	.864	0.02
respect	1.20	0.15	7.88	.000	0.83
network	0.28	0.17	1.64	.112	0.18

Note. $F_{(5, 31)} = 137.62$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 165 Observed Judgment Policy of School Building Leader Effectiveness

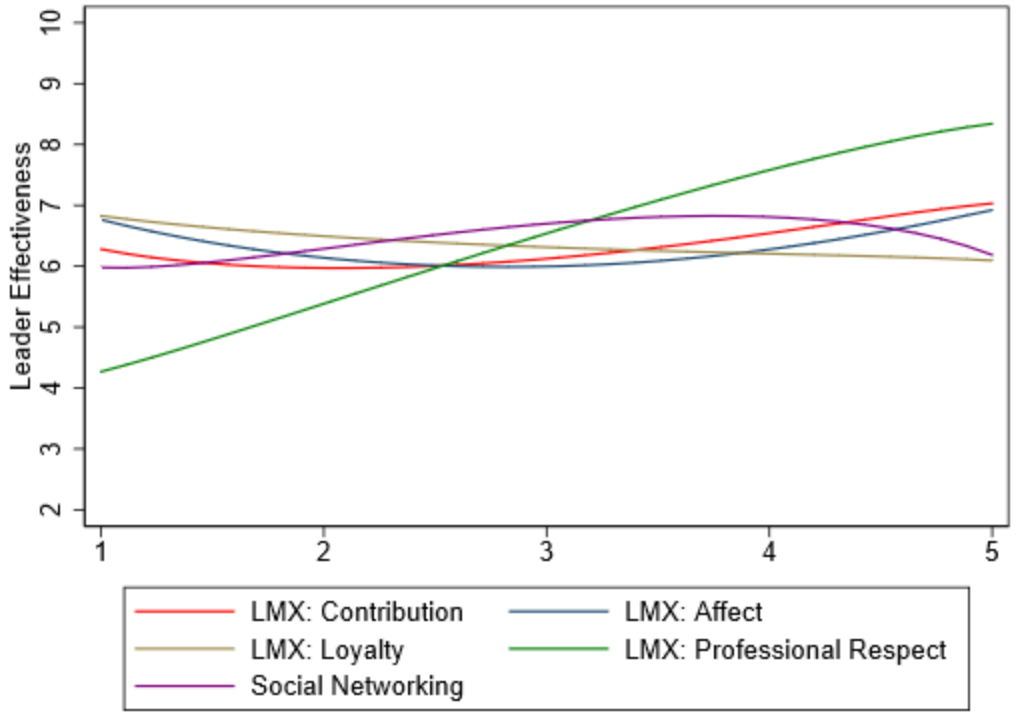


Figure A165.1. Judgment policy by leadership quality for Case 165 based on observed leader-effectiveness scores.

Case 165 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

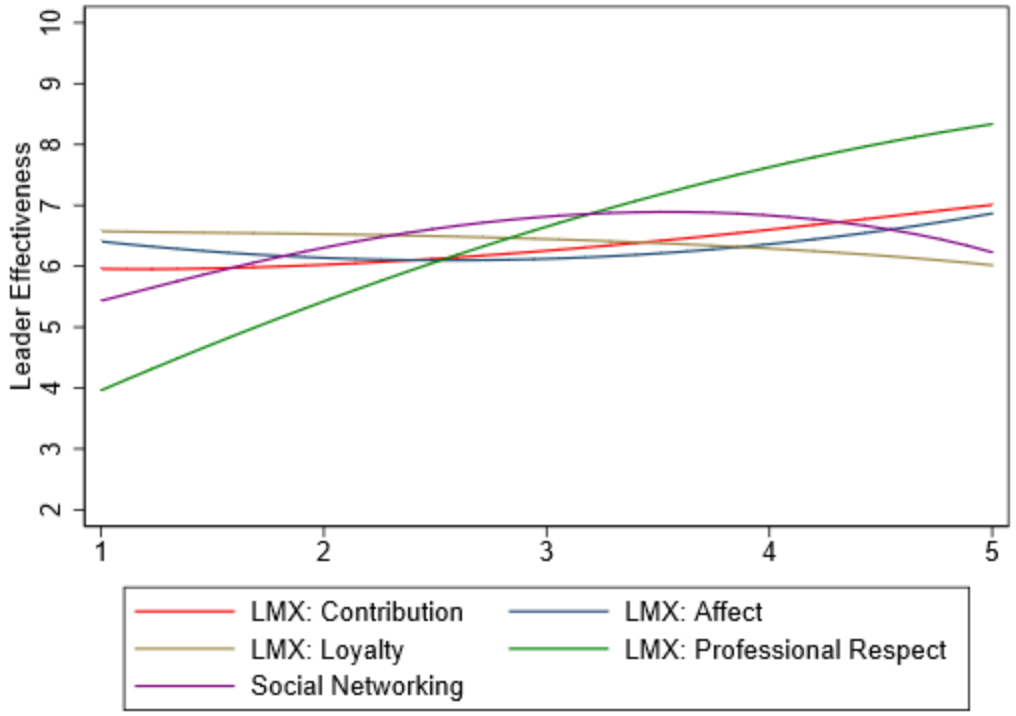


Figure A165.2. Judgment policy by leadership quality for Case 165 based on predicted leader-effectiveness scores from quadric regression.

Table A166.1

Case 166 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.46	1.43	0.32	.752	-2.49	3.41
contribution2	-0.09	0.24	-0.37	.716	-0.58	0.40
loyal	0.26	1.53	0.17	.865	-2.89	3.42
loyal2	0.00	0.25	-0.01	.995	-0.51	0.51
affect	0.83	1.42	0.58	.567	-2.10	3.75
affect2	-0.16	0.24	-0.65	.521	-0.65	0.34
respect	1.92	1.38	1.39	.177	-0.92	4.77
respect2	-0.16	0.23	-0.71	.482	-0.63	0.31
network	-0.60	1.49	-0.40	.689	-3.66	2.45
network2	0.13	0.24	0.55	.590	-0.36	0.63

Note. $F_{(10, 26)} = 17.57$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .82$

Table A166.2

Case 166 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.00	0.25	0.02	.986	0.00
loyal	0.36	0.27	1.31	.199	0.18
affect	0.04	0.26	0.15	.884	0.02
respect	1.06	0.25	4.25	.000	0.56
network	0.34	0.28	1.24	.226	0.17

Note. $F_{(5, 31)} = 38.50$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .84$

Case 166 Observed Judgment Policy of School Building Leader Effectiveness

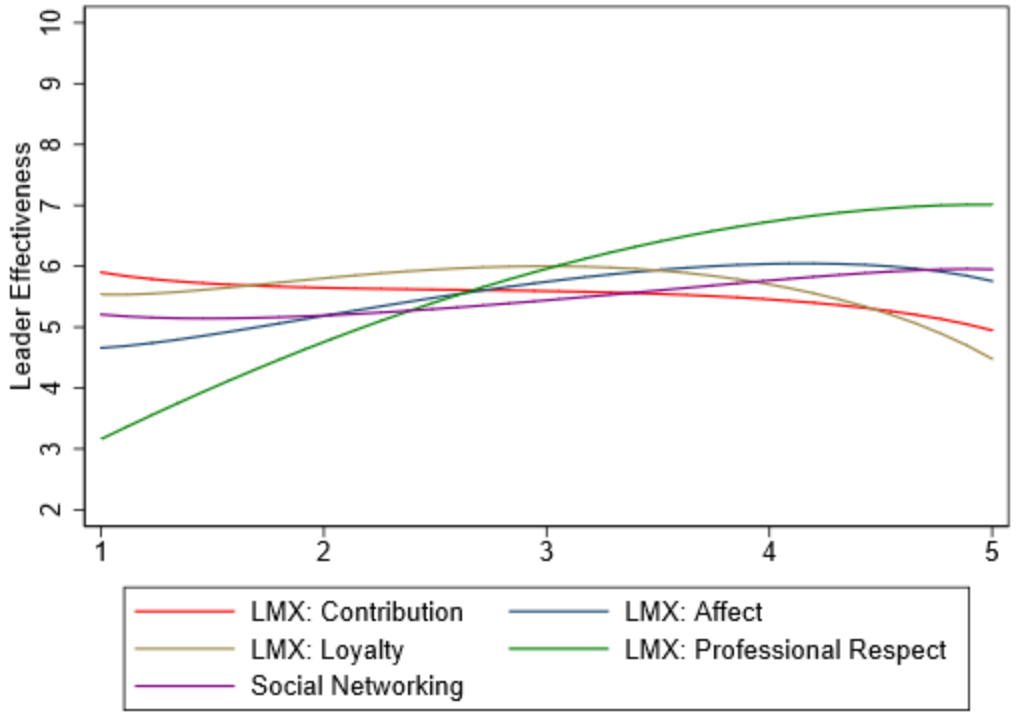


Figure A166.1. Judgment policy by leadership quality for Case 166 based on observed leader-effectiveness scores.

Case 166 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

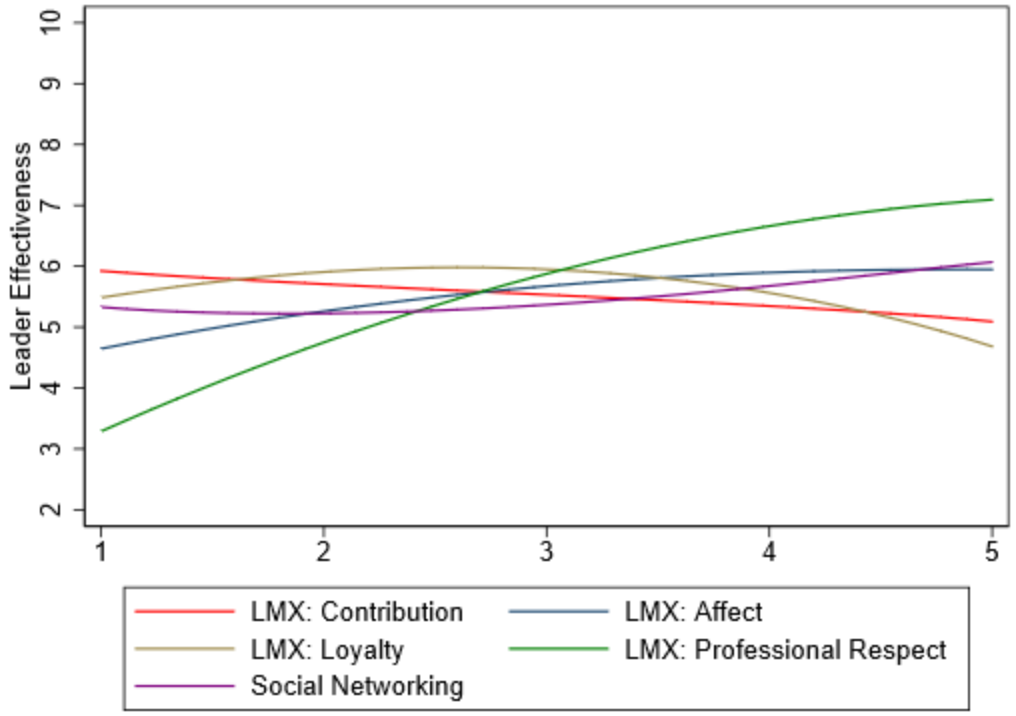


Figure A166.2. Judgment policy by leadership quality for Case 166 based on predicted leader-effectiveness scores from quadric regression.

Table A167.1

Case 167 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.54	1.26	1.23	.232	-1.05	4.13
contribution2	-0.19	0.21	-0.91	.370	-0.62	0.24
loyal	0.08	1.35	0.06	.951	-2.68	2.85
loyal2	0.02	0.22	0.08	.934	-0.43	0.47
affect	2.16	1.25	1.73	.096	-0.41	4.72
affect2	-0.32	0.21	-1.52	.142	-0.75	0.11
respect	1.71	1.22	1.41	.170	-0.78	4.21
respect2	-0.17	0.20	-0.86	.396	-0.59	0.24
network	-1.06	1.30	-0.81	.424	-3.74	1.62
network2	0.13	0.21	0.60	.553	-0.31	0.56

Note. $F_{(10, 26)} = 37.98$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A167.2

Case 167 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.56	0.25	2.27	.030	0.38
loyal	0.39	0.26	1.48	.149	0.25
affect	0.53	0.25	2.14	.041	0.36
respect	0.91	0.24	3.81	.001	0.62
network	-0.01	0.27	-0.06	.956	-0.01

Note. $F_{(5, 31)} = 68.50$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 167 Observed Judgment Policy of School Building Leader Effectiveness

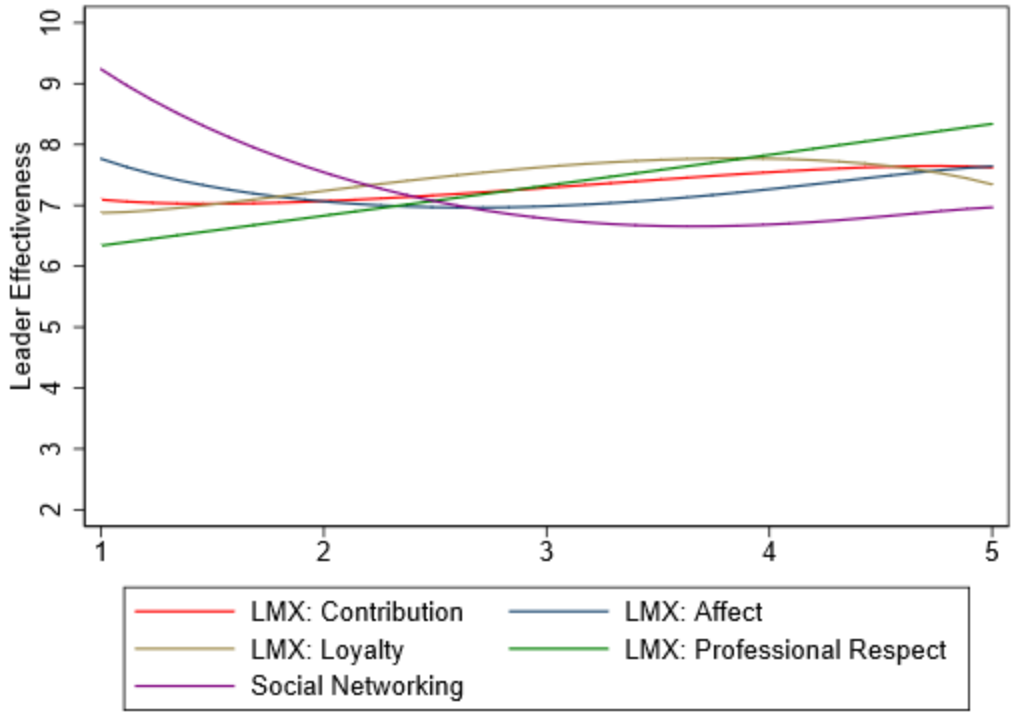


Figure A167.1. Judgment policy by leadership quality for Case 167 based on observed leader-effectiveness scores.

Case 167 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

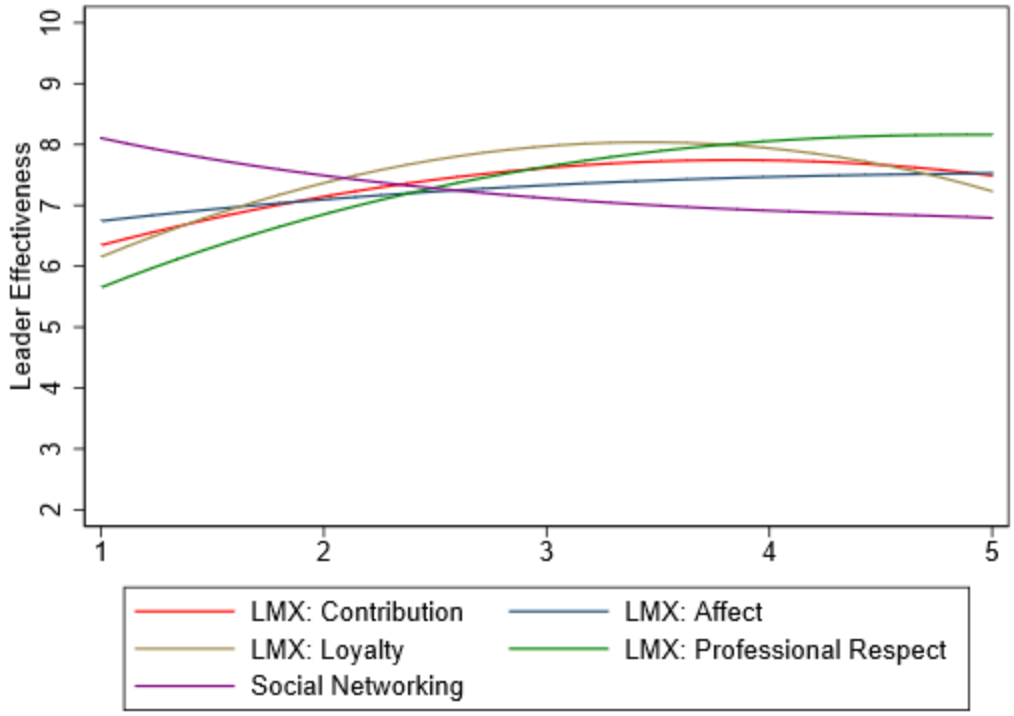


Figure A167.2. Judgment policy by leadership quality for Case 167 based on predicted leader-effectiveness scores from quadric regression.

Table A168.1

Case 168 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.08	1.12	0.97	.342	-1.21	3.37
contribution2	-0.14	0.19	-0.76	.453	-0.53	0.24
loyal	-0.19	1.19	-0.16	.875	-2.64	2.26
loyal2	0.09	0.19	0.48	.637	-0.31	0.49
affect	2.76	1.11	2.49	.019	0.48	5.03
affect2	-0.52	0.19	-2.80	.010	-0.90	-0.14
respect	2.14	1.08	1.99	.057	-0.07	4.36
respect2	-0.32	0.18	-1.81	.082	-0.69	0.04
network	0.96	1.16	0.83	.415	-1.42	3.33
network2	-0.25	0.19	-1.31	.203	-0.63	0.14

Note. $F_{(10, 26)} = 54.89$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A168.2

Case 168 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.65	0.29	2.24	.032	0.47
loyal	0.82	0.31	2.66	.012	0.57
affect	0.21	0.29	0.71	.482	0.15
respect	0.78	0.28	2.75	.010	0.56
network	0.00	0.31	0.00	.997	0.00

Note. $F_{(5, 31)} = 54.02$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 168 Observed Judgment Policy of School Building Leader Effectiveness

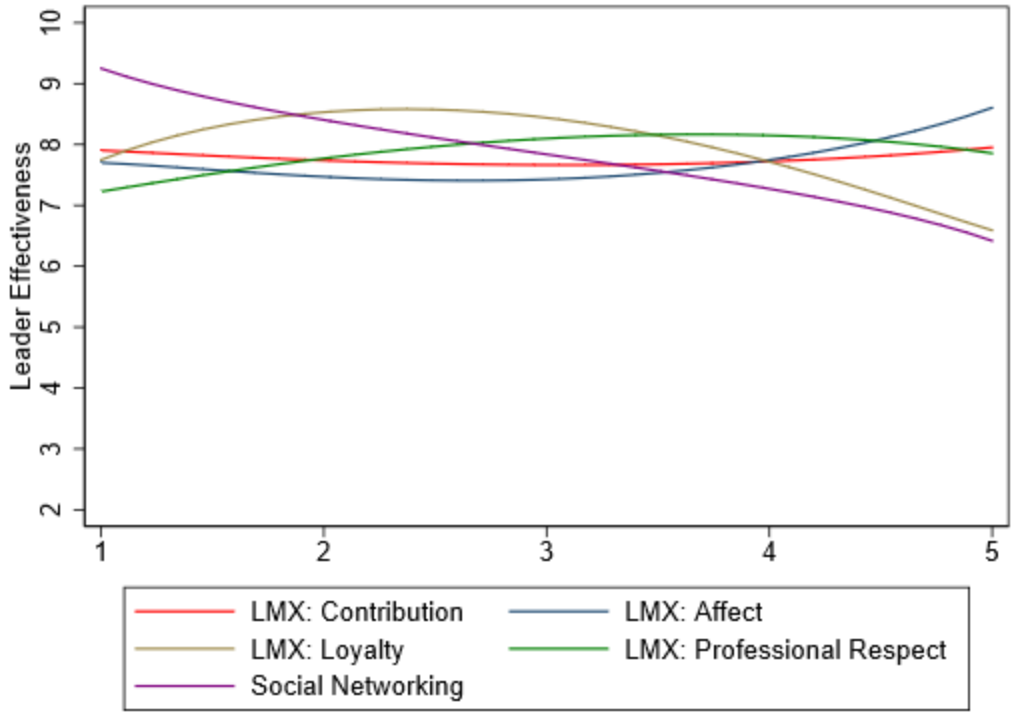


Figure A168.1. Judgment policy by leadership quality for Case 168 based on observed leader-effectiveness scores.

Case 168 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

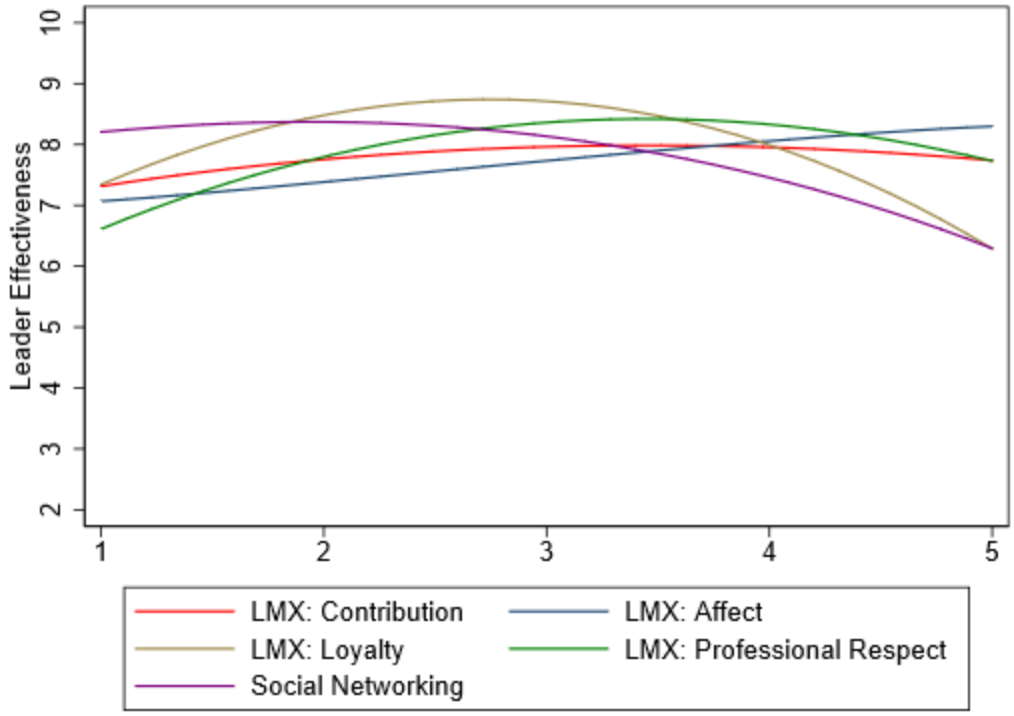


Figure A168.2. Judgment policy by leadership quality for Case 168 based on predicted leader-effectiveness scores from quadric regression.

Table A169.1

Case 169 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.12	1.08	1.03	.310	-1.10	3.34
contribution2	-0.19	0.18	-1.06	.299	-0.56	0.18
loyal	0.64	1.15	0.56	.582	-1.73	3.02
loyal2	-0.11	0.19	-0.56	.579	-0.49	0.28
affect	0.68	1.07	0.64	.530	-1.52	2.88
affect2	-0.14	0.18	-0.78	.444	-0.51	0.23
respect	0.60	1.04	0.58	.567	-1.54	2.75
respect2	0.02	0.17	0.10	.922	-0.34	0.37
network	0.04	1.12	0.03	.973	-2.26	2.34
network2	0.03	0.18	0.16	.872	-0.34	0.40

Note. $F_{(10, 26)} = 24.48$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Table A169.2

Case 169 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.12	0.20	0.57	.573	0.09
loyal	0.14	0.22	0.66	.515	0.10
affect	0.04	0.21	0.17	.864	0.03
respect	0.90	0.20	4.54	.000	0.68
network	0.41	0.22	1.86	.073	0.28

Note. $F_{(5, 31)} = 47.61$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 169 Observed Judgment Policy of School Building Leader Effectiveness

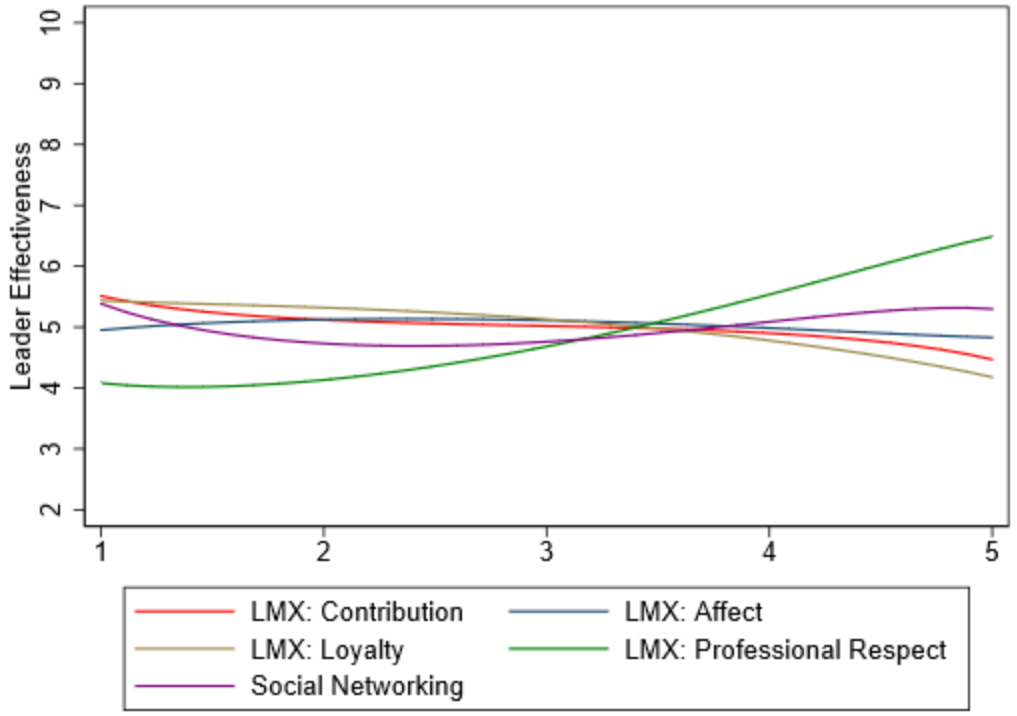


Figure A169.1. Judgment policy by leadership quality for Case 169 based on observed leader-effectiveness scores.

Case 169 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

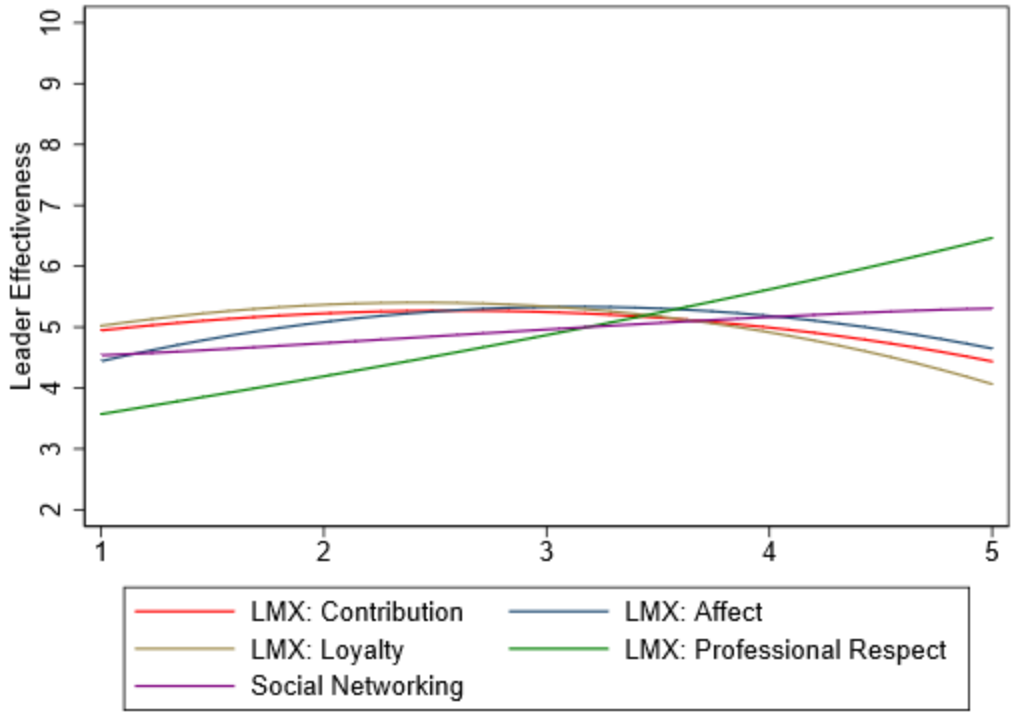


Figure A169.2. Judgment policy by leadership quality for Case 169 based on predicted leader-effectiveness scores from quadric regression.

Table A170.1

Case 170 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.05	0.86	-0.05	.958	-1.82	1.72
contribution2	0.05	0.14	0.34	.739	-0.25	0.34
loyal	0.36	0.92	0.39	.698	-1.53	2.25
loyal2	-0.06	0.15	-0.40	.694	-0.37	0.25
affect	0.32	0.85	0.37	.711	-1.44	2.07
affect2	-0.03	0.14	-0.24	.810	-0.33	0.26
respect	2.43	0.83	2.92	.007	0.72	4.14
respect2	-0.22	0.14	-1.63	.114	-0.51	0.06
network	0.19	0.89	0.22	.831	-1.64	2.03
network2	-0.02	0.15	-0.12	.905	-0.32	0.28

Note. $F_{(10, 26)} = 68.45$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A170.2

Case 170 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.35	0.16	2.15	.039	0.26
loyal	0.12	0.17	0.72	.475	0.09
affect	0.25	0.16	1.50	.143	0.18
respect	1.23	0.16	7.84	.000	0.93
network	0.22	0.17	1.26	.216	0.15

Note. $F_{(5, 31)} = 136.41$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 170 Observed Judgment Policy of School Building Leader Effectiveness

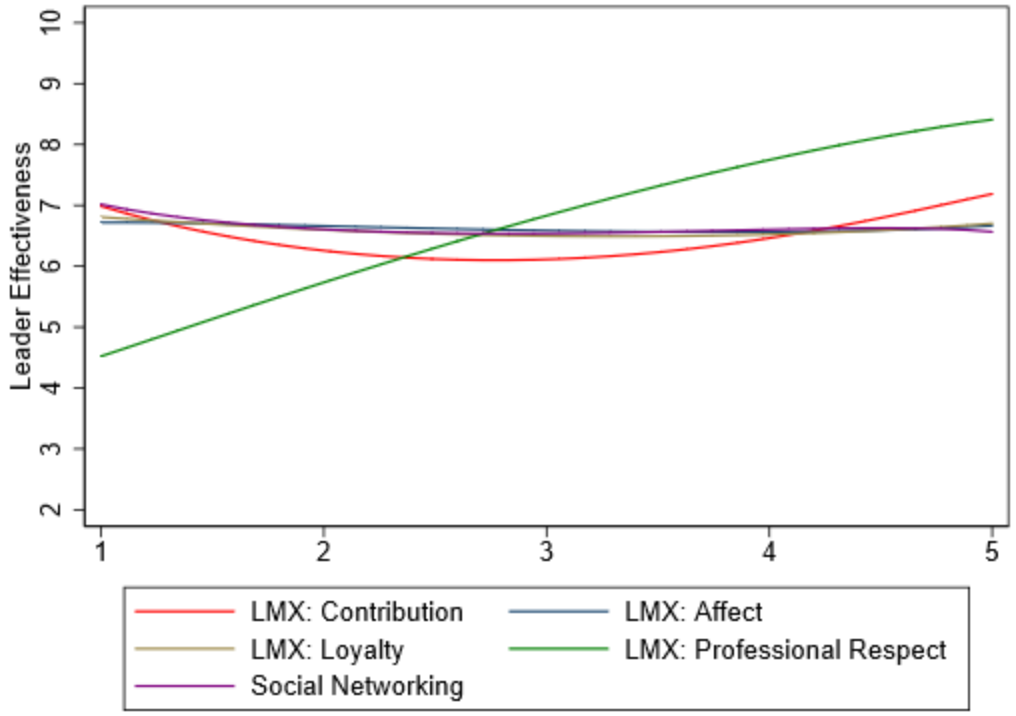


Figure A170.1. Judgment policy by leadership quality for Case 170 based on observed leader-effectiveness scores.

Case 170 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

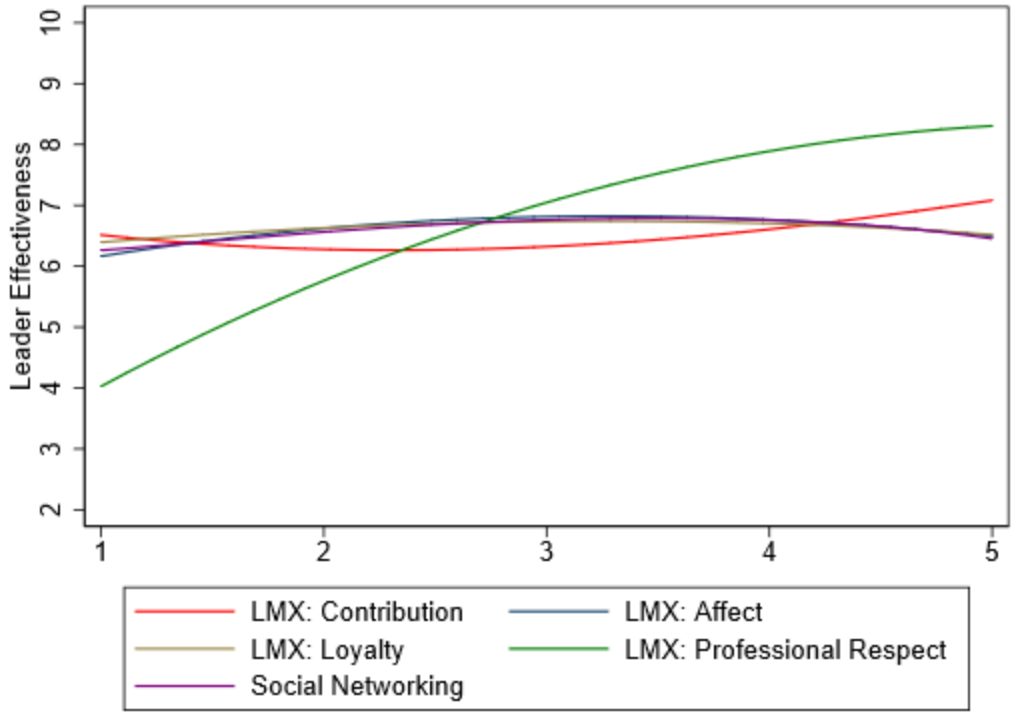


Figure A170.2. Judgment policy by leadership quality for Case 170 based on predicted leader-effectiveness scores from quadric regression.

Table A171.1

Case 171 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.10	0.96	-1.16	.259	-3.07	0.86
contribution2	0.18	0.16	1.14	.264	-0.15	0.51
loyal	-0.23	1.02	-0.22	.826	-2.33	1.87
loyal2	0.09	0.17	0.57	.575	-0.25	0.44
affect	1.48	0.95	1.56	.130	-0.47	3.43
affect2	-0.22	0.16	-1.40	.175	-0.55	0.11
respect	0.29	0.92	0.31	.758	-1.61	2.18
respect2	0.14	0.15	0.91	.369	-0.17	0.45
network	1.12	0.99	1.13	.270	-0.92	3.15
network2	-0.16	0.16	-0.99	.329	-0.49	0.17

Note. $F_{(10, 26)} = 35.52$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A171.2

Case 171 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.03	0.18	-0.16	.874	-0.02
loyal	0.32	0.19	1.72	.096	0.19
affect	0.13	0.18	0.74	.464	0.08
respect	1.14	0.17	6.60	.000	0.71
network	0.12	0.19	0.64	.526	0.07

Note. $F_{(5, 31)} = 71.42$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .91$

Case 171 Observed Judgment Policy of School Building Leader Effectiveness

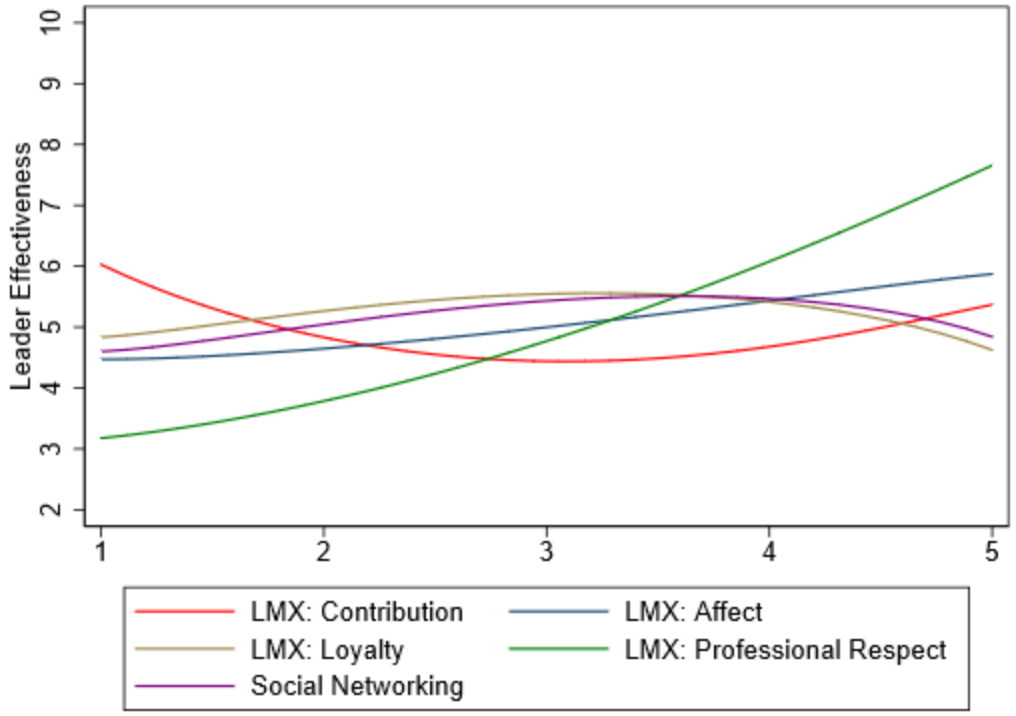


Figure A171.1. Judgment policy by leadership quality for Case 171 based on observed leader-effectiveness scores.

Case 171 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

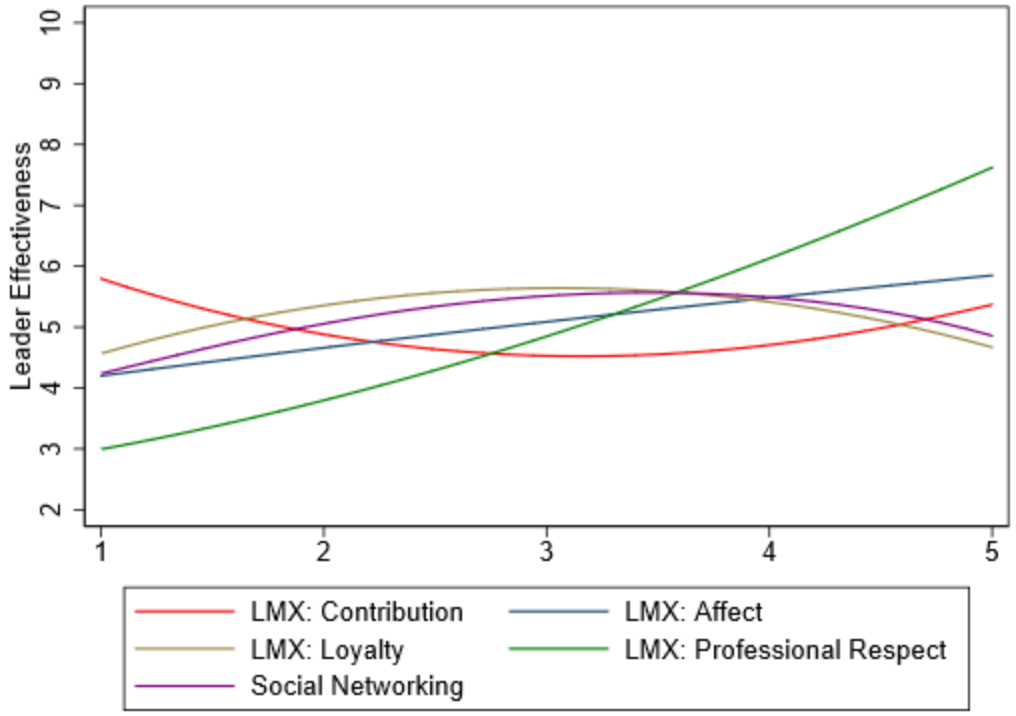


Figure A171.2. Judgment policy by leadership quality for Case 171 based on predicted leader-effectiveness scores from quadric regression.

Table A172.1

Case 172 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.85	0.64	-1.33	.197	-2.17	0.47
contribution2	0.14	0.11	1.33	.195	-0.08	0.36
loyal	-1.22	0.69	-1.77	.088	-2.63	0.19
loyal2	0.21	0.11	1.91	.067	-0.02	0.44
affect	0.09	0.64	0.14	.893	-1.22	1.39
affect2	-0.01	0.11	-0.10	.921	-0.23	0.21
respect	1.13	0.62	1.83	.079	-0.14	2.41
respect2	-0.05	0.10	-0.51	.618	-0.26	0.16
network	2.18	0.66	3.28	.003	0.81	3.55
network2	-0.22	0.11	-2.02	.054	-0.44	0.00

Note. $F_{(10, 26)} = 72.59$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A172.2

Case 172 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.01	0.13	-0.05	.960	0.00
loyal	0.06	0.14	0.45	.656	0.04
affect	-0.01	0.13	-0.09	.932	-0.01
respect	0.79	0.12	6.30	.000	0.54
network	0.80	0.14	5.80	.000	0.50

Note. $F_{(5, 31)} = 126.97$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .95$

Case 172 Observed Judgment Policy of School Building Leader Effectiveness

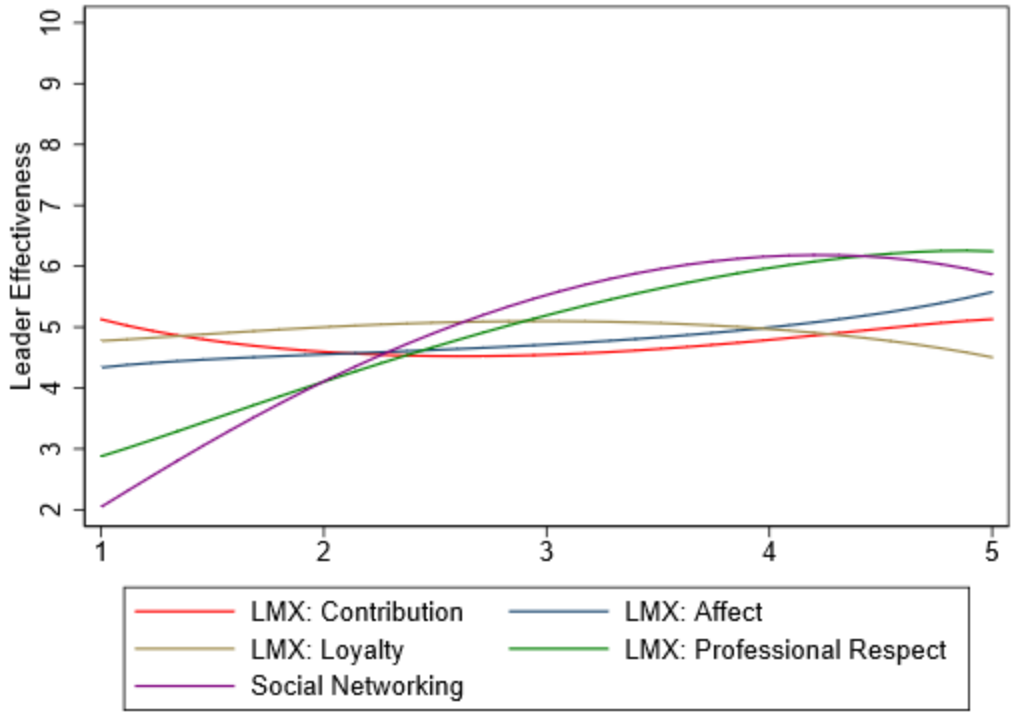


Figure A172.1. Judgment policy by leadership quality for Case 172 based on observed leader-effectiveness scores.

Case 172 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

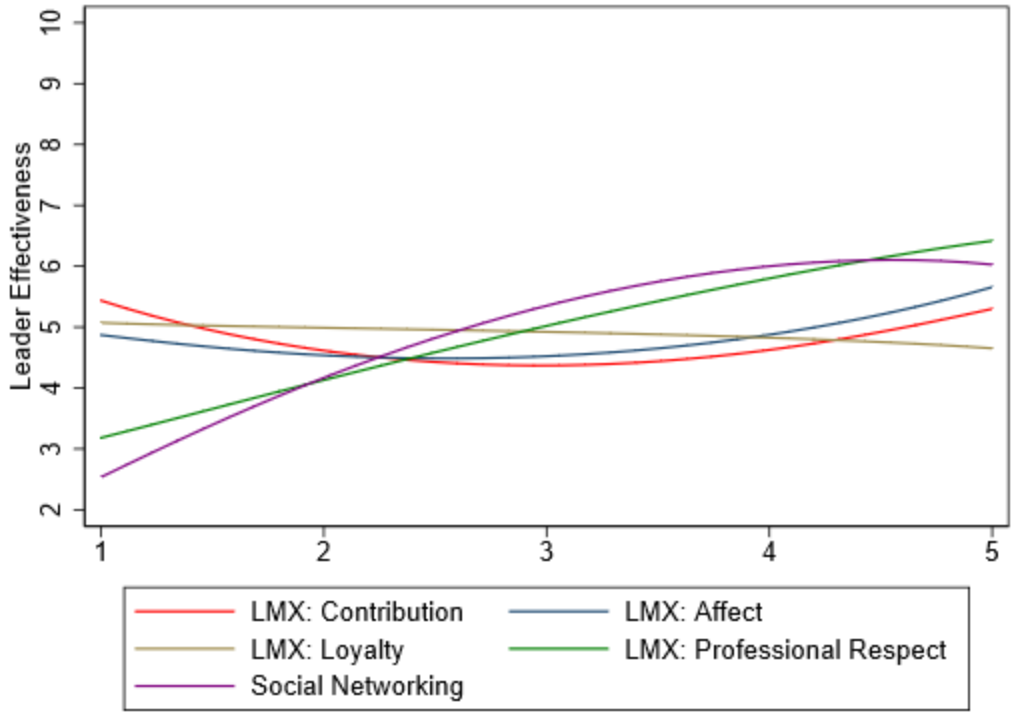


Figure A172.2. Judgment policy by leadership quality for Case 172 based on predicted leader-effectiveness scores from quadric regression.

Table A173.1

Case 173 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.17	0.72	-0.24	.814	-1.65	1.31
contribution2	0.08	0.12	0.65	.520	-0.17	0.32
loyal	-0.76	0.77	-0.99	.331	-2.34	0.82
loyal2	0.10	0.12	0.81	.427	-0.16	0.36
affect	1.83	0.71	2.57	.016	0.36	3.29
affect2	-0.32	0.12	-2.70	.012	-0.57	-0.08
respect	0.15	0.69	0.22	.829	-1.27	1.58
respect2	0.13	0.11	1.13	.269	-0.11	0.37
network	1.21	0.74	1.62	.117	-0.32	2.74
network2	-0.11	0.12	-0.90	.376	-0.36	0.14

Note. $F_{(10, 26)} = 69.37$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A173.2

Case 173 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.33	0.14	2.31	.028	0.24
loyal	-0.12	0.15	-0.76	.450	-0.08
affect	-0.04	0.14	-0.29	.773	-0.03
respect	1.01	0.14	7.25	.000	0.73
network	0.61	0.16	3.90	.000	0.40

Note. $F_{(5, 31)} = 120.89$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 173 Observed Judgment Policy of School Building Leader Effectiveness

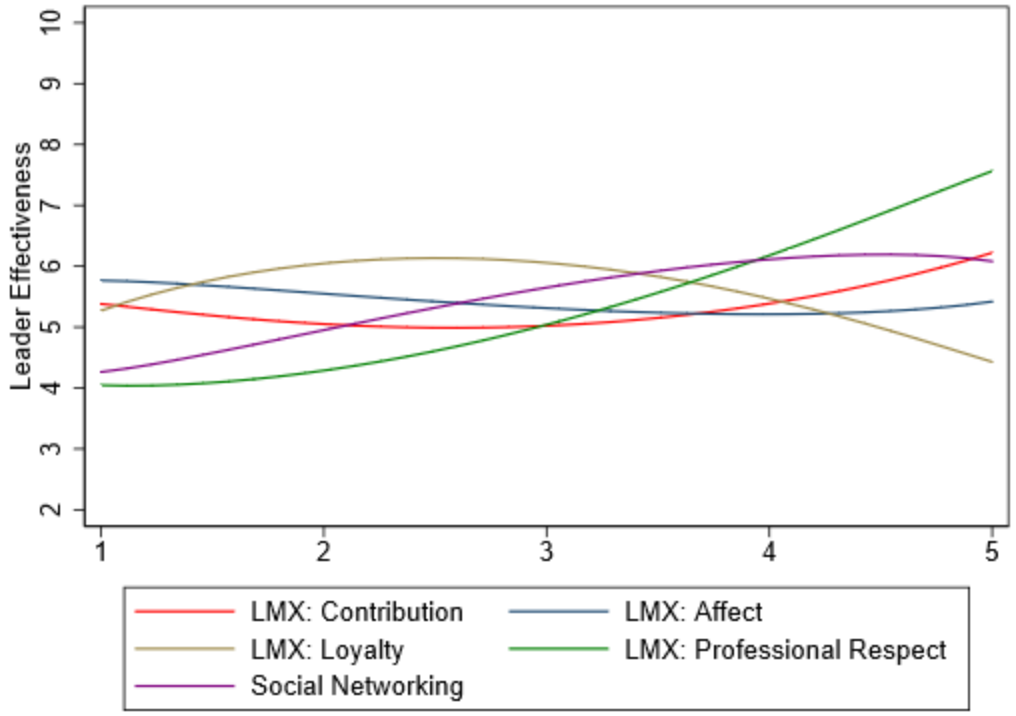


Figure A173.1. Judgment policy by leadership quality for Case 173 based on observed leader-effectiveness scores.

Case 173 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

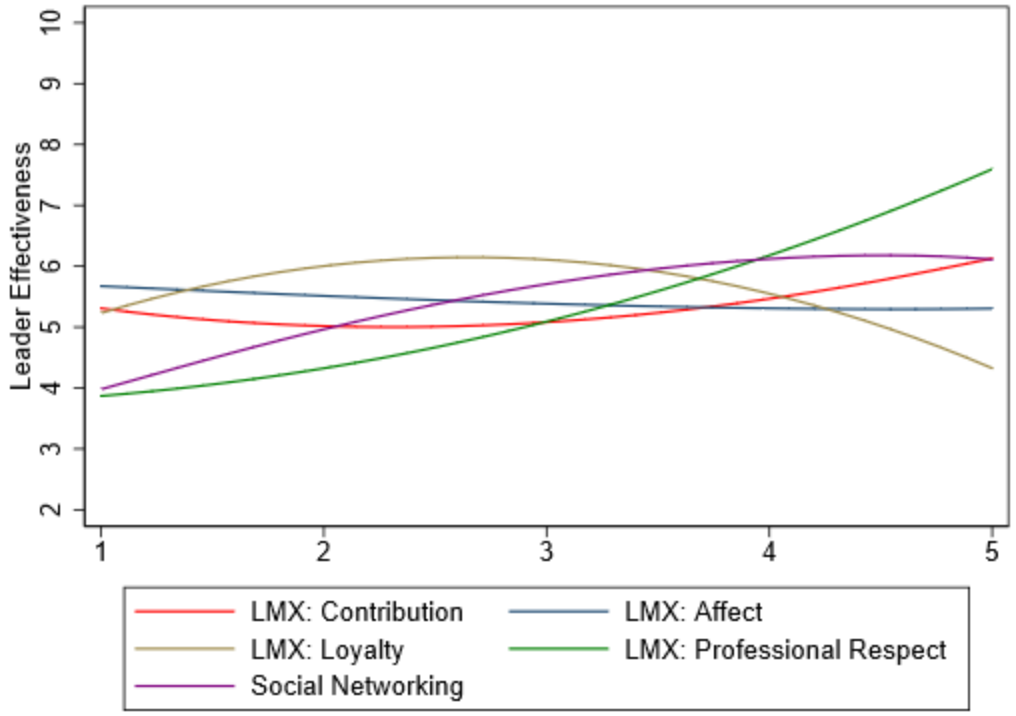


Figure A173.2. Judgment policy by leadership quality for Case 173 based on predicted leader-effectiveness scores from quadric regression.

Table A174.1

Case 174 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.49	0.72	0.68	.502	-0.99	1.98
contribution2	-0.10	0.12	-0.84	.408	-0.35	0.15
loyal	-1.33	0.77	-1.72	.097	-2.92	0.26
loyal2	0.28	0.13	2.24	.034	0.02	0.54
affect	0.91	0.72	1.27	.215	-0.56	2.38
affect2	-0.16	0.12	-1.37	.183	-0.41	0.08
respect	0.24	0.70	0.34	.739	-1.20	1.67
respect2	0.04	0.12	0.39	.702	-0.19	0.28
network	3.14	0.75	4.20	.000	1.61	4.68
network2	-0.41	0.12	-3.35	.002	-0.66	-0.16

Note. $F_{(10, 26)} = 98.35$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A174.2

Case 174 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.06	0.16	0.35	.732	0.04
loyal	0.52	0.17	3.01	.005	0.38
affect	0.10	0.16	0.63	.534	0.08
respect	0.67	0.16	4.22	.000	0.50
network	0.81	0.18	4.59	.000	0.56

Note. $F_{(5, 31)} = 133.29$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 174 Observed Judgment Policy of School Building Leader Effectiveness

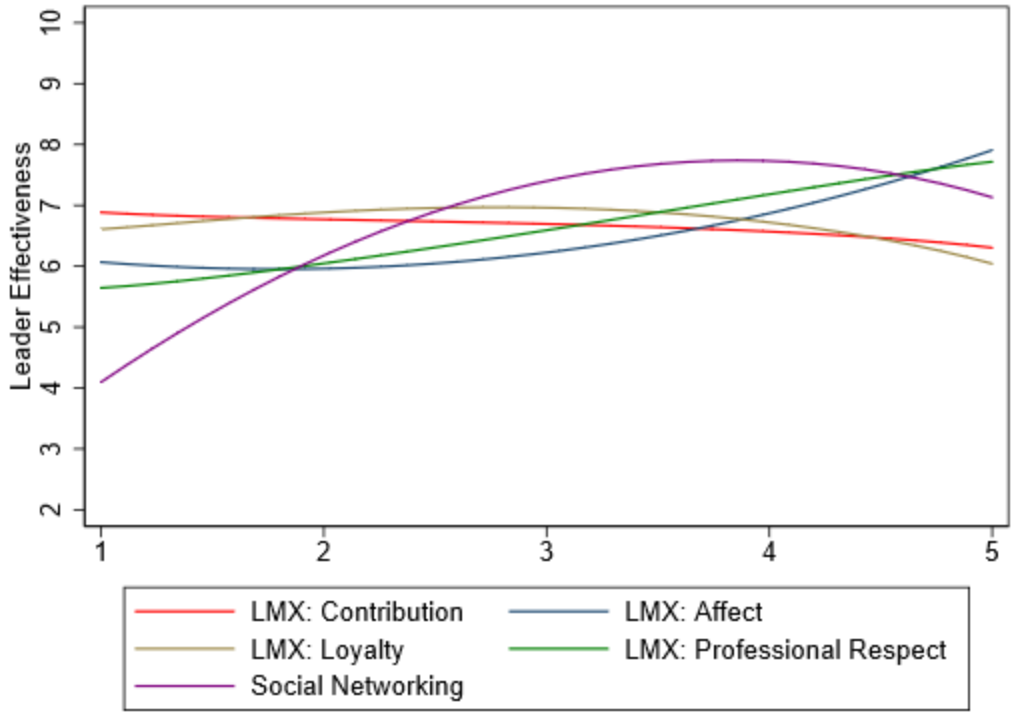


Figure A174.1. Judgment policy by leadership quality for Case 174 based on observed leader-effectiveness scores.

Case 174 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

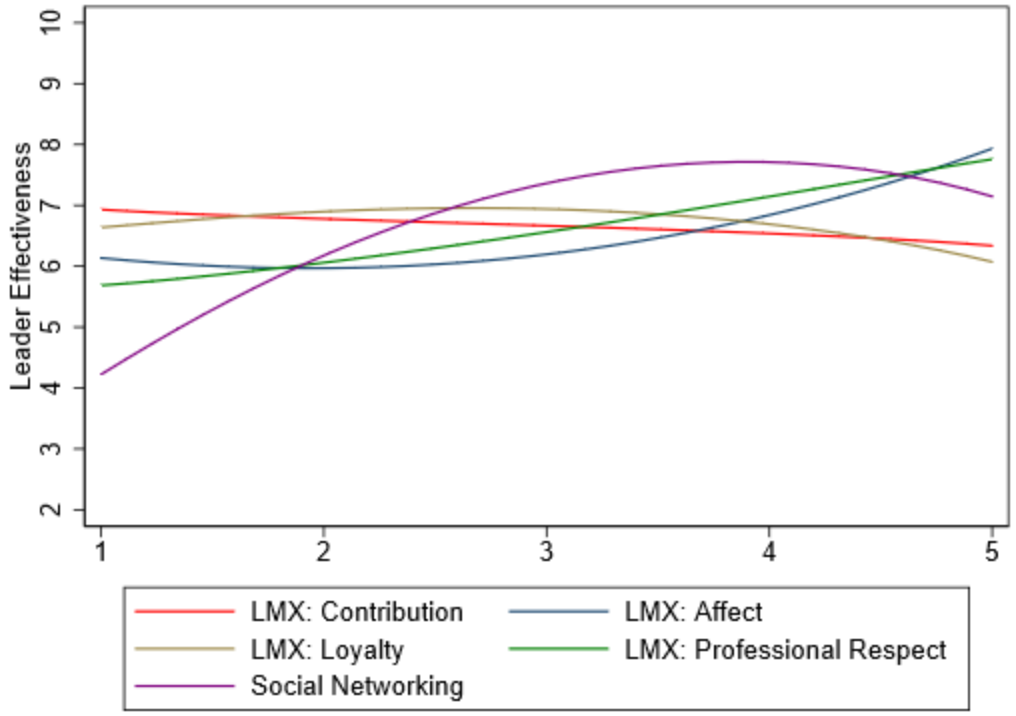


Figure A174.2. Judgment policy by leadership quality for Case 174 based on predicted leader-effectiveness scores from quadric regression.

Table A175.1

Case 175 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.70	1.47	-0.48	.638	-3.72	2.32
contribution2	0.11	0.25	0.46	.647	-0.39	0.62
loyal	-0.66	1.57	-0.42	.679	-3.88	2.57
loyal2	0.13	0.25	0.50	.622	-0.40	0.65
affect	0.26	1.46	0.18	.859	-2.73	3.25
affect2	0.00	0.24	-0.01	.995	-0.50	0.50
respect	0.31	1.42	0.22	.830	-2.61	3.22
respect2	0.07	0.23	0.28	.781	-0.42	0.55
network	2.89	1.52	1.90	.069	-0.24	6.02
network2	-0.34	0.25	-1.37	.183	-0.85	0.17

Note. $F_{(10, 26)} = 20.13$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .84$

Table A175.2

Case 175 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.03	0.26	0.13	.896	0.02
loyal	0.14	0.28	0.51	.611	0.07
affect	0.26	0.26	0.99	.331	0.13
respect	0.75	0.26	2.92	.006	0.38
network	0.83	0.28	2.92	.006	0.38

Note. $F_{(5, 31)} = 44.12$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 175 Observed Judgment Policy of School Building Leader Effectiveness

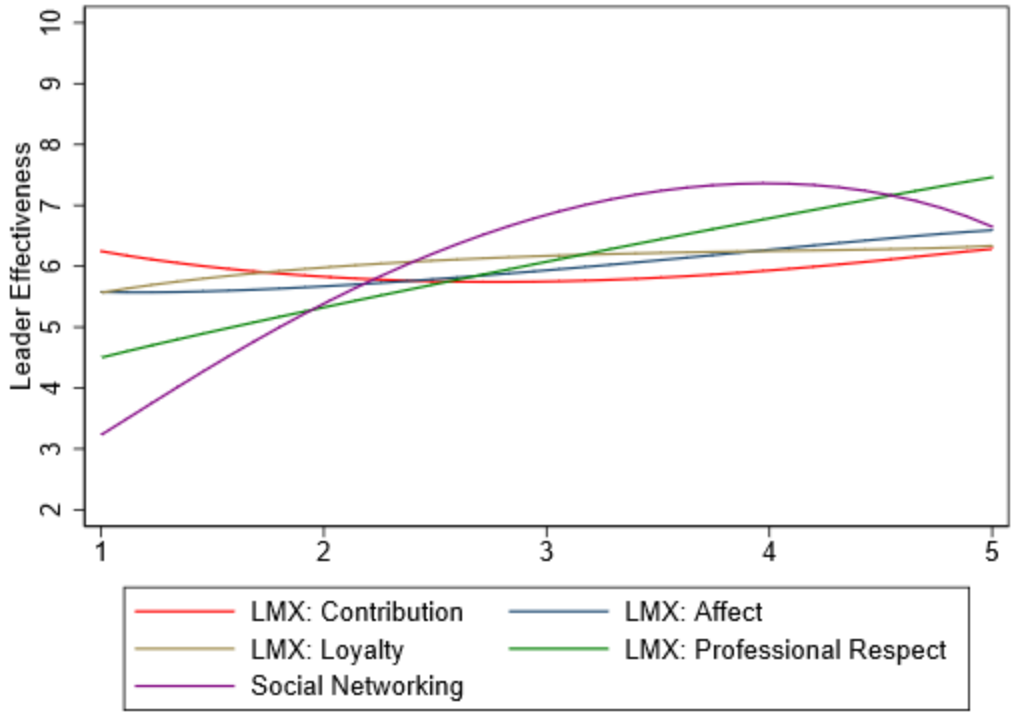


Figure A175.1. Judgment policy by leadership quality for Case 175 based on observed leader-effectiveness scores.

Case 175 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

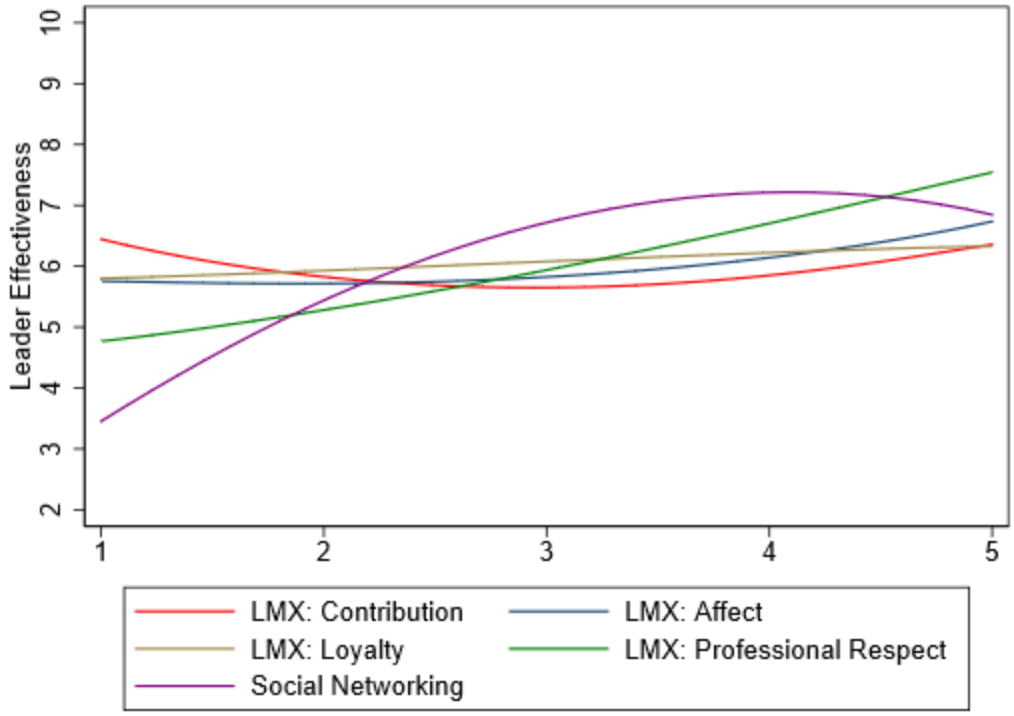


Figure A175.2. Judgment policy by leadership quality for Case 175 based on predicted leader-effectiveness scores from quadric regression.

Table A176.1

Case 176 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.34	1.53	0.87	.390	-1.81	4.49
contrib2	-0.17	0.26	-0.65	.523	-0.69	0.36
loyal	-0.44	1.64	-0.27	.791	-3.81	2.93
loyal2	0.13	0.27	0.48	.637	-0.42	0.67
affect	1.18	1.52	0.77	.446	-1.95	4.30
affect2	-0.26	0.26	-1.01	.323	-0.78	0.27
respect	1.68	1.48	1.14	.266	-1.36	4.73
respect2	-0.25	0.25	-1.01	.320	-0.75	0.26
network	0.40	1.59	0.25	.801	-2.86	3.67
network2	-0.09	0.26	-0.34	.737	-0.62	0.44

Note. $F_{(10, 26)} = 15.06$ ($p < .001$), R2 = .85, Adjusted R2 = .80

Table A176.2

Case 176 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.58	0.29	1.99	.055	0.31
loyal	0.58	0.31	1.88	.069	0.30
affect	-0.04	0.29	-0.15	.882	-0.02
respect	0.48	0.28	1.70	.100	0.26
network	0.17	0.32	0.55	.588	0.08

Note. $F_{(5, 31)} = 28.28$ ($p < .001$), R2 = .82, Adjusted R2 = .79

Case 176 Observed Judgment Policy of School Building Leader Effectiveness

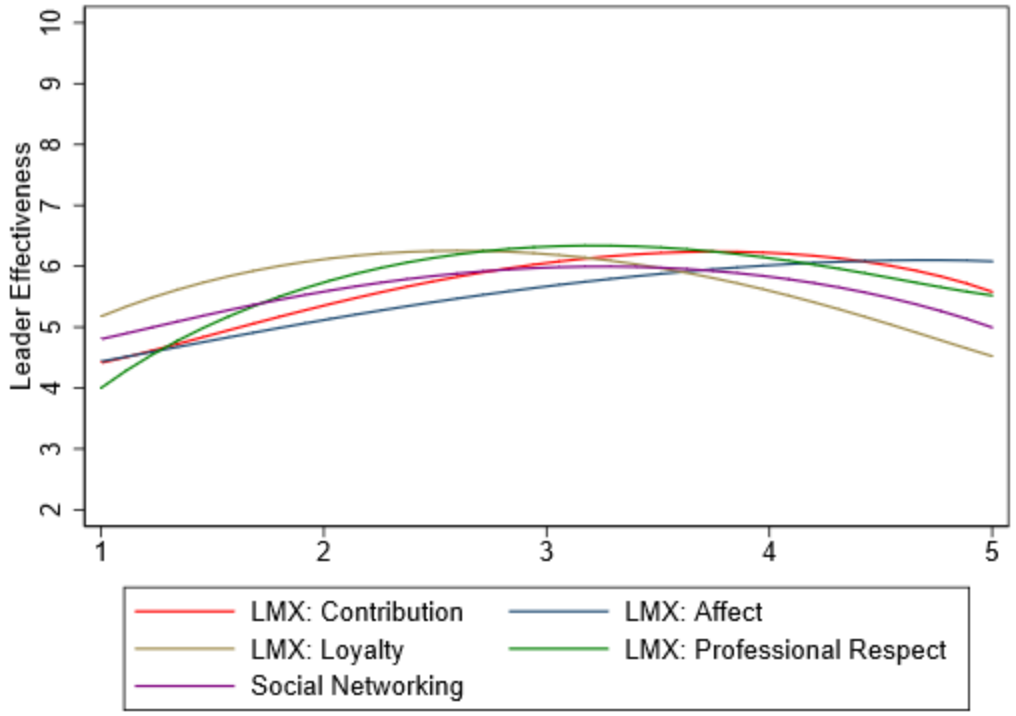


Figure A176.1. Judgment policy by leadership quality for Case 176 based on observed leader-effectiveness scores.

Case 176 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

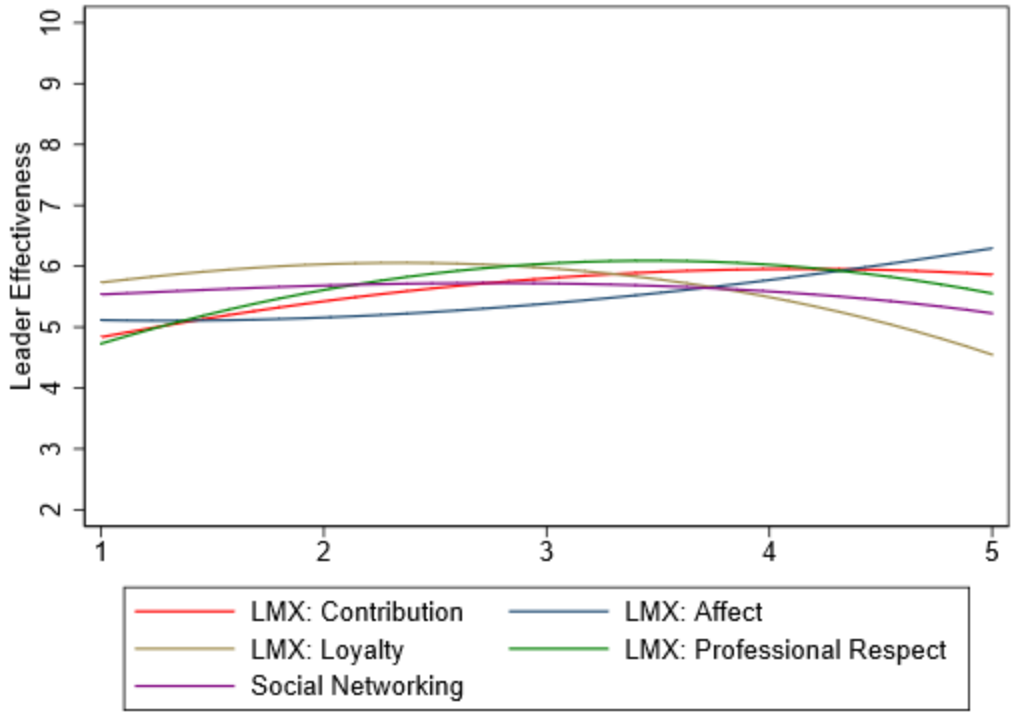


Figure A176.2. Judgment policy by leadership quality for Case 176 based on predicted leader-effectiveness scores from quadric regression.

Table A177.1

Case 177 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.84	0.81	1.04	.308	-0.82	2.51
contribution2	-0.10	0.14	-0.74	.466	-0.38	0.18
loyal	1.13	0.87	1.30	.204	-0.65	2.91
loyal2	-0.17	0.14	-1.20	.240	-0.46	0.12
affect	1.48	0.80	1.84	.077	-0.17	3.13
affect2	-0.24	0.13	-1.77	.089	-0.52	0.04
respect	1.69	0.78	2.16	.040	0.08	3.30
respect2	-0.26	0.13	-2.01	.055	-0.53	0.01
network	2.58	0.84	3.07	.005	0.85	4.30
network2	-0.39	0.14	-2.89	.008	-0.68	-0.11

Note. $F_{(10, 26)} = 183.58$ ($p < .001$), $R^2 = .99$, Adjusted $R^2 = .98$

Table A177.2

Case 177 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.71	0.25	2.81	.009	1.44
loyal	0.57	0.27	2.11	.043	1.11
affect	0.60	0.26	2.32	.027	1.20
respect	0.76	0.25	3.04	.005	1.51
network	0.71	0.28	2.55	.016	1.29

Note. $F_{(5, 31)} = 125.44$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .95$

Case 177 Observed Judgment Policy of School Building Leader Effectiveness

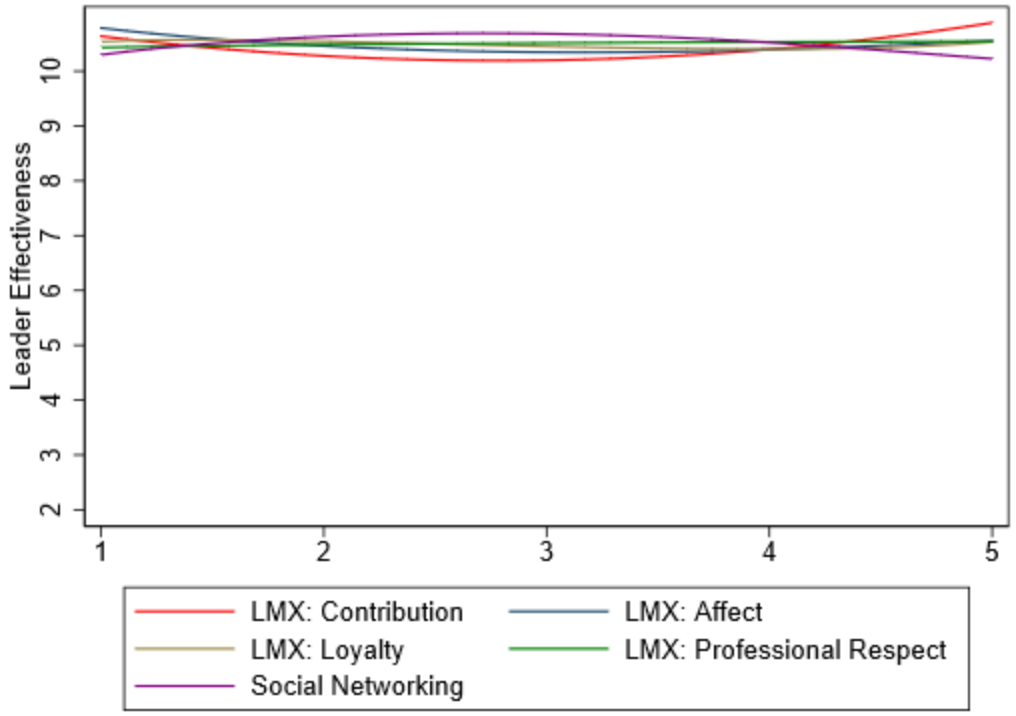


Figure A177.1. Judgment policy by leadership quality for Case 177 based on observed leader-effectiveness scores.

Case 177 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

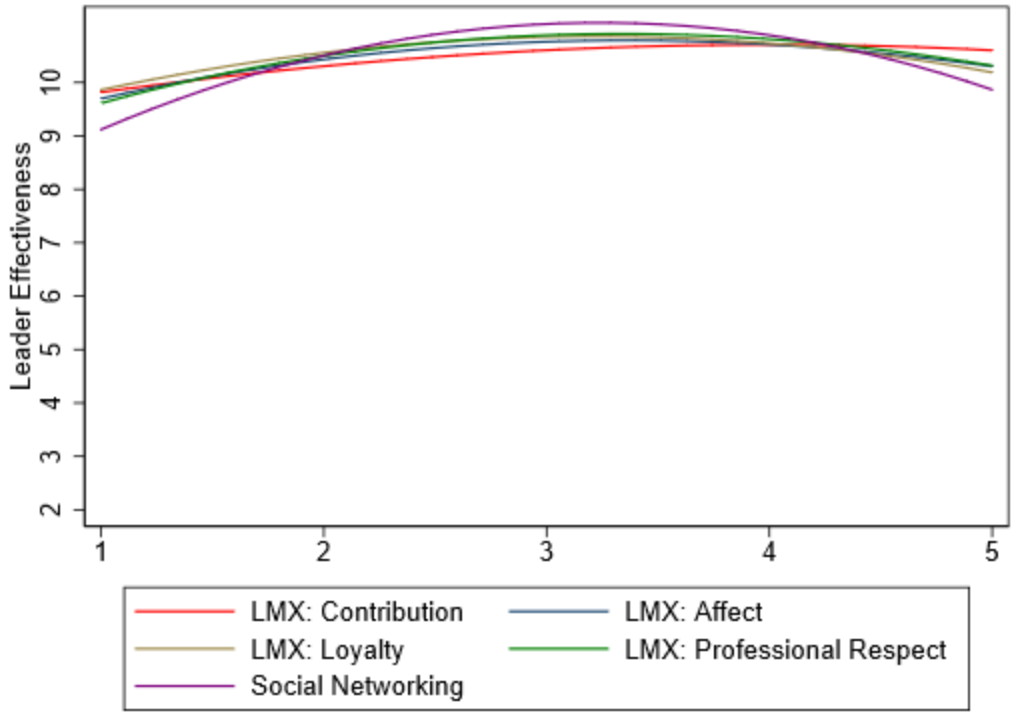


Figure A177.2. Judgment policy by leadership quality for Case 177 based on predicted leader-effectiveness scores from quadric regression.

Table A178.1

Case 178 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.43	1.35	-0.32	.753	-3.21	2.35
contribution2	0.16	0.23	0.70	.488	-0.31	0.62
loyal	-3.85	1.45	-2.66	.013	-6.82	-0.88
loyal2	0.66	0.23	2.83	.009	0.18	1.15
affect	2.13	1.34	1.59	.124	-0.62	4.89
affect2	-0.33	0.23	-1.46	.157	-0.79	0.13
respect	2.27	1.31	1.74	.094	-0.41	4.95
respect2	-0.20	0.22	-0.93	.359	-0.65	0.24
network	1.75	1.40	1.25	.223	-1.13	4.63
network2	-0.24	0.23	-1.04	.308	-0.71	0.23

Note. $F_{(10, 26)} = 26.25$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A178.2

Case 178 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.48	0.27	1.76	.088	0.23
loyal	0.17	0.29	0.58	.569	0.08
affect	0.18	0.28	0.63	.533	0.08
respect	0.98	0.27	3.64	.001	0.46
network	0.28	0.30	0.93	.359	0.12

Note. $F_{(5, 31)} = 42.68$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 178 Observed Judgment Policy of School Building Leader Effectiveness

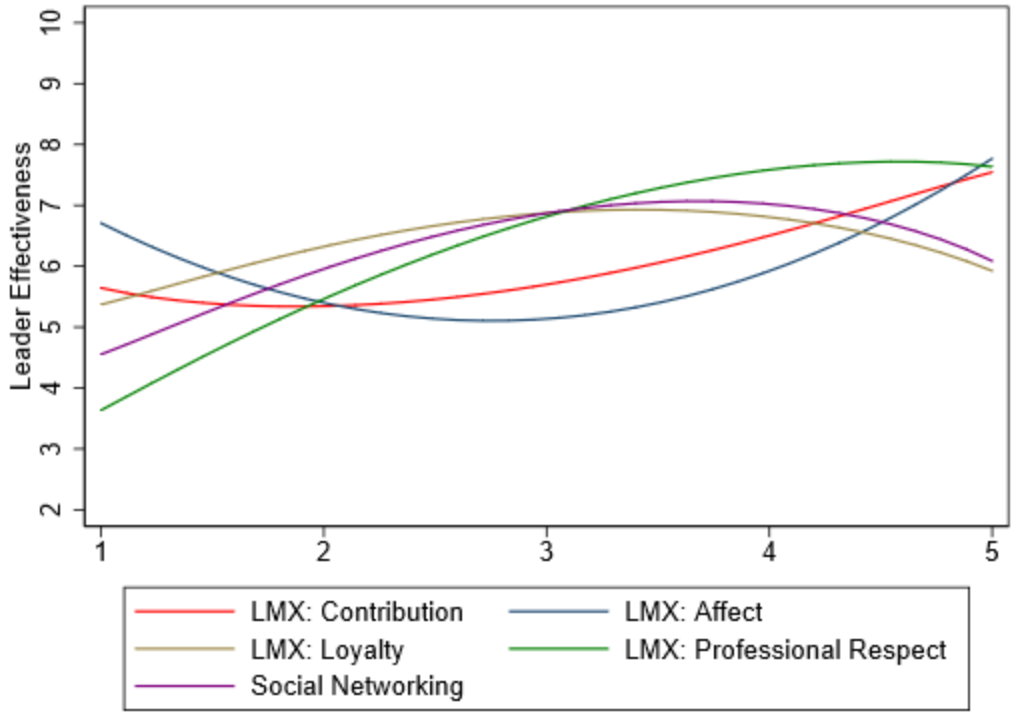


Figure A178.1. Judgment policy by leadership quality for Case 178 based on observed leader-effectiveness scores.

Case 178 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

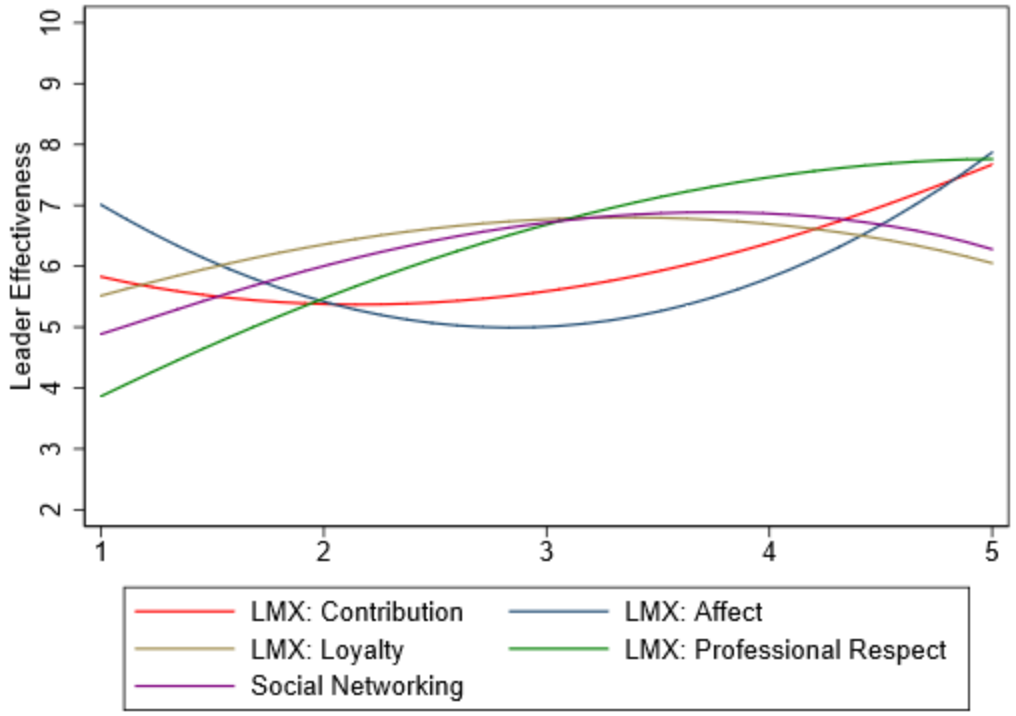


Figure A178.2. Judgment policy by leadership quality for Case 178 based on predicted leader-effectiveness scores from quadric regression.

Table A179.1

Case 179 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.70	1.29	-0.54	.592	-3.34	1.95
contribtion2	0.13	0.21	0.61	.549	-0.31	0.57
loyal	-0.79	1.37	-0.58	.569	-3.62	2.03
loyal2	0.24	0.22	1.08	.291	-0.22	0.70
affect	0.35	1.28	0.27	.789	-2.28	2.97
affect2	-0.03	0.21	-0.15	.884	-0.47	0.41
respect	2.03	1.24	1.63	.114	-0.52	4.58
respect2	-0.25	0.21	-1.22	.233	-0.67	0.17
network	1.23	1.33	0.92	.364	-1.51	3.97
network2	-0.17	0.22	-0.81	.428	-0.62	0.27

Note. $F_{(10, 26)} = 21.37$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .85$

Table A179.2

Case 179 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.12	0.23	0.52	.603	0.07
loyal	0.72	0.25	2.90	.007	0.41
affect	0.20	0.24	0.86	.395	0.12
respect	0.55	0.23	2.42	.022	0.33
network	0.20	0.25	0.78	.442	0.11

Note. $F_{(5, 31)} = 44.62$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 179 Observed Judgment Policy of School Building Leader Effectiveness

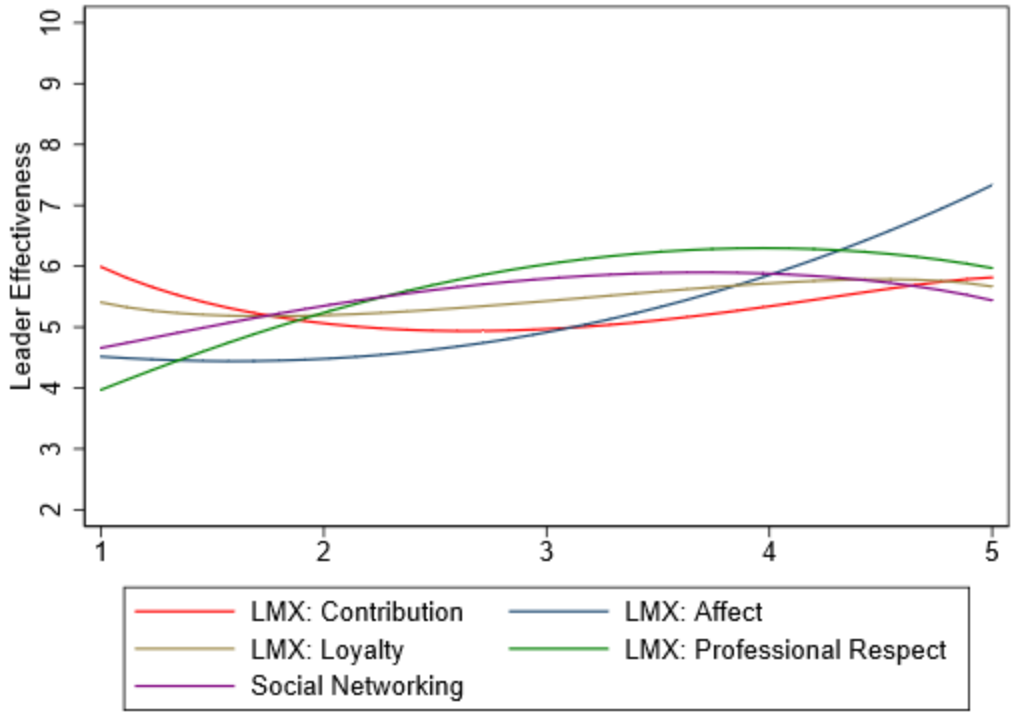


Figure A179.1. Judgment policy by leadership quality for Case 179 based on observed leader-effectiveness scores.

Case 179 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

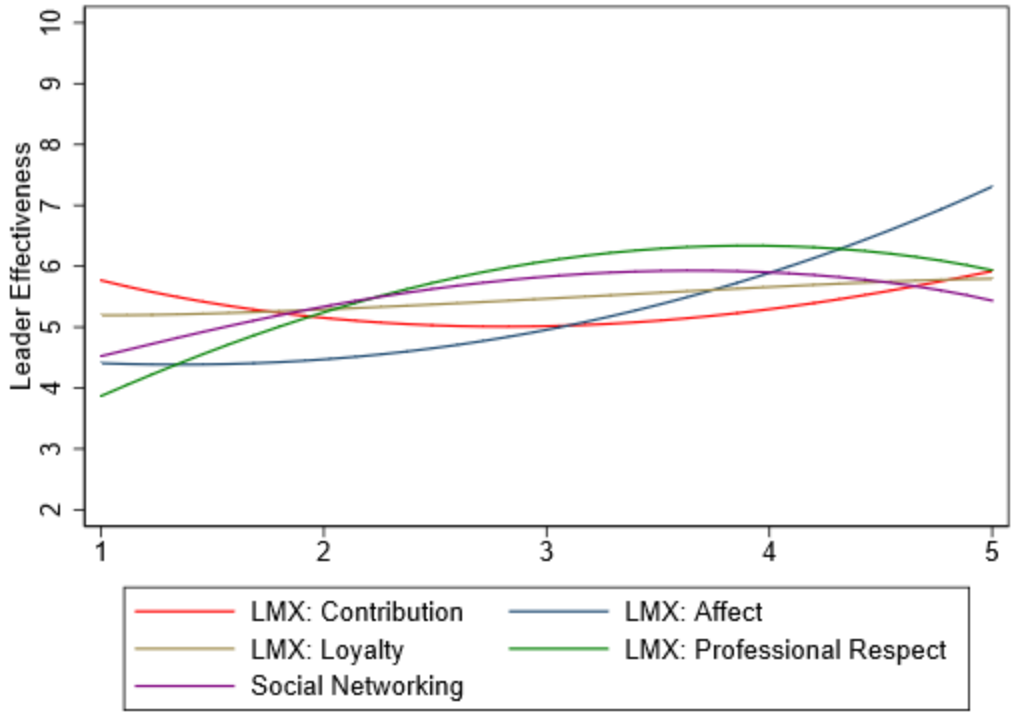


Figure A179.2. Judgment policy by leadership quality for Case 179 based on predicted leader-effectiveness scores from quadric regression.

Table A180.1

Case 180 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.35	0.96	-0.36	.719	-2.33	1.63
contribution2	0.08	0.16	0.51	.616	-0.25	0.41
loyal	-0.66	1.03	-0.64	.530	-2.77	1.46
loyal2	0.16	0.17	0.97	.340	-0.18	0.51
affect	0.85	0.96	0.89	.383	-1.12	2.81
affect2	-0.15	0.16	-0.91	.370	-0.48	0.18
respect	0.79	0.93	0.85	.402	-1.12	2.71
respect2	-0.10	0.15	-0.62	.541	-0.41	0.22
network	2.36	1.00	2.36	.026	0.30	4.41
network2	-0.33	0.16	-2.01	.055	-0.66	0.01

Note. $F_{(10, 26)} = 37.46$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A180.2

Case 180 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.28	0.19	1.52	.139	0.23
loyal	0.47	0.20	2.38	.024	0.37
affect	0.13	0.19	0.67	.506	0.10
respect	0.40	0.18	2.19	.036	0.32
network	0.51	0.20	2.52	.017	0.38

Note. $F_{(5, 31)} = 68.54$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 180 Observed Judgment Policy of School Building Leader Effectiveness

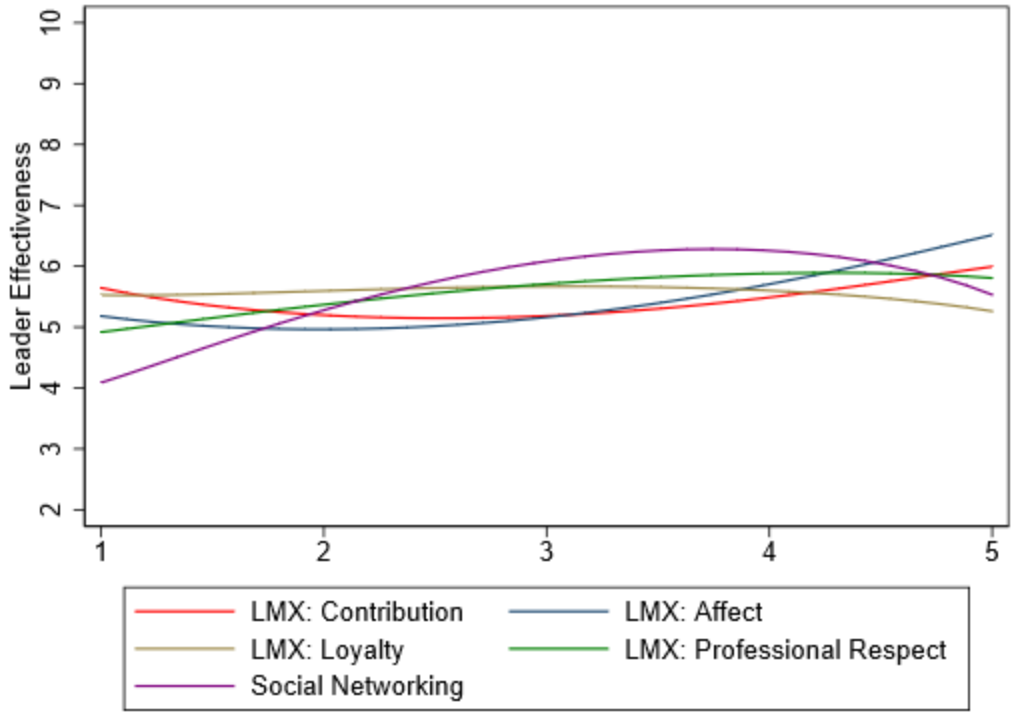


Figure A180.1. Judgment policy by leadership quality for Case 180 based on observed leader-effectiveness scores.

Case 180 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

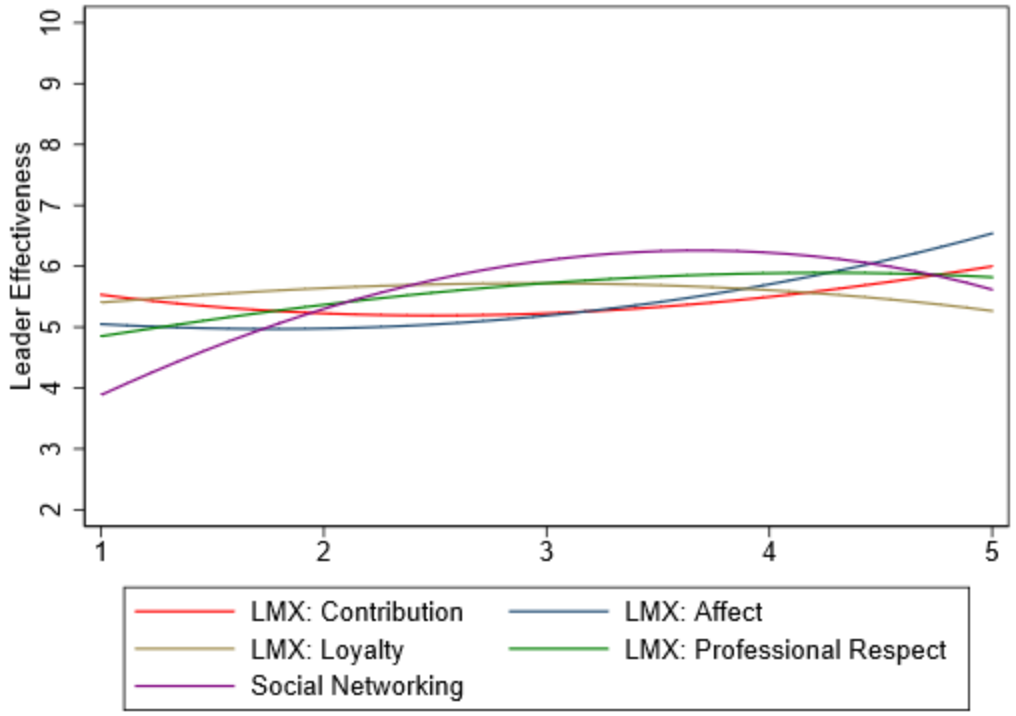


Figure A180.2. Judgment policy by leadership quality for Case 180 based on predicted leader-effectiveness scores from quadric regression.

Table A181.1

Case 181 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.46	0.73	2.01	.055	-0.03	2.95
contrib2	-0.23	0.12	-1.89	.069	-0.48	0.02
loyal	-0.77	0.77	-0.99	.331	-2.36	0.83
loyal2	0.15	0.13	1.21	.236	-0.11	0.41
affect	0.82	0.72	1.14	.263	-0.65	2.30
affect2	-0.11	0.12	-0.93	.361	-0.36	0.14
respect	1.77	0.70	2.53	.018	0.33	3.21
respect2	-0.17	0.12	-1.51	.143	-0.41	0.06
network	0.01	0.75	0.01	.992	-1.54	1.55
network2	0.02	0.12	0.15	.884	-0.23	0.27

Note. $F_{(10, 26)} = 78.30$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Table A181.2

Case 181 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.21	0.15	1.40	.172	0.20
loyal	0.29	0.16	1.86	.073	0.28
affect	0.34	0.15	2.24	.032	0.33
respect	0.85	0.15	5.82	.000	0.82
network	0.28	0.16	1.76	.089	0.25

Note. $F_{(5, 31)} = 128.78$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .95$

Case 181 Observed Judgment Policy of School Building Leader Effectiveness

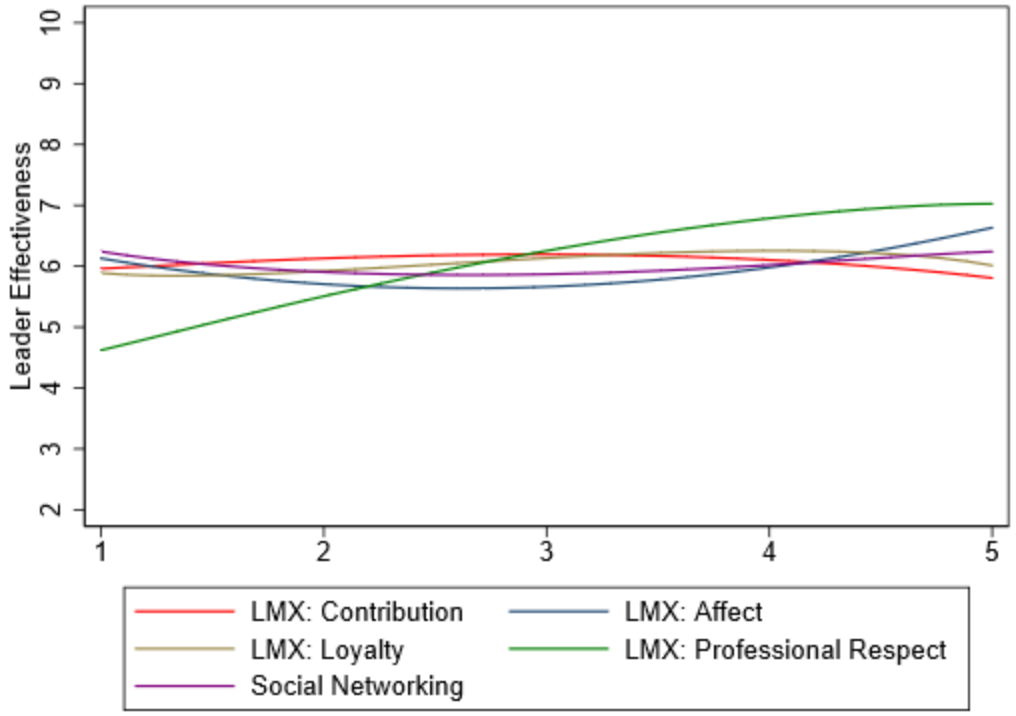


Figure A181.1. Judgment policy by leadership quality for Case 181 based on observed leader-effectiveness scores.

Case 181 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

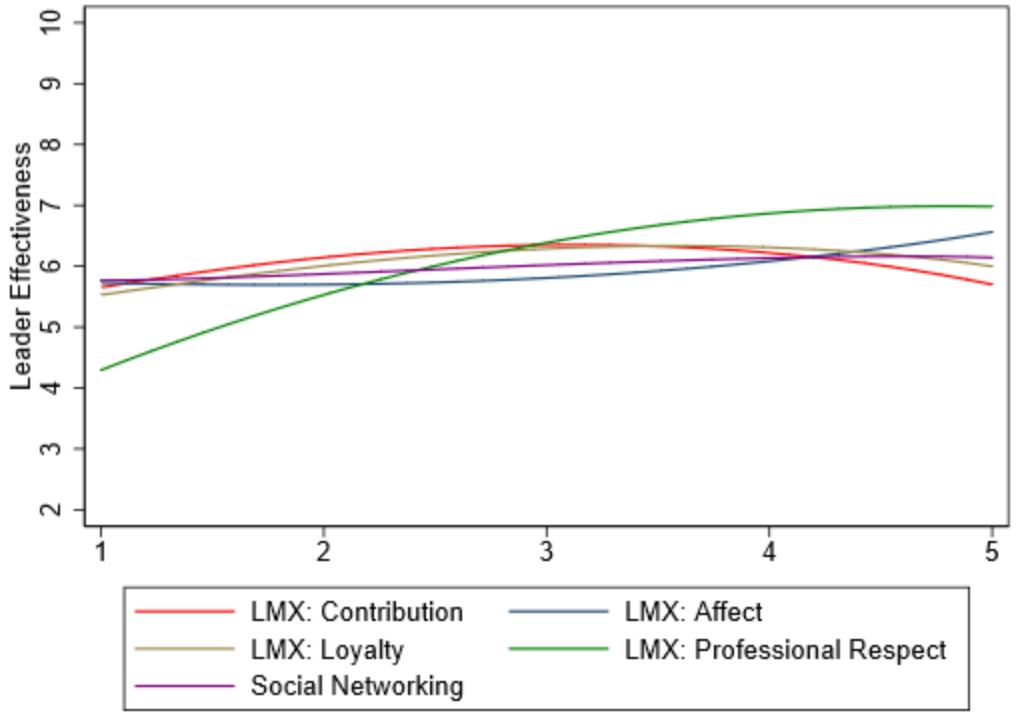


Figure A181.2. Judgment policy by leadership quality for Case 181 based on predicted leader-effectiveness scores from quadric regression.

Table A182.1

Case 182 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.54	0.97	-0.56	.582	-2.52	1.45
contribution2	0.07	0.16	0.41	.685	-0.27	0.40
loyal	-1.24	1.03	-1.20	.242	-3.36	0.89
loyal2	0.26	0.17	1.54	.136	-0.09	0.60
affect	0.55	0.96	0.57	.572	-1.42	2.52
affect2	-0.11	0.16	-0.68	.504	-0.44	0.22
respect	2.04	0.93	2.19	.038	0.13	3.96
respect2	-0.19	0.15	-1.22	.233	-0.51	0.13
network	2.06	1.00	2.06	.050	0.00	4.11
network2	-0.22	0.16	-1.35	.188	-0.55	0.11

Note. $F_{(10, 26)} = 55.27$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A182.2

Case 182 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.06	0.18	-0.33	.745	-0.04
loyal	0.42	0.20	2.17	.038	0.25
affect	0.00	0.19	-0.01	.989	0.00
respect	0.99	0.18	5.57	.000	0.61
network	0.80	0.20	4.03	.000	0.45

Note. $F_{(5, 31)} = 107.03$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 182 Observed Judgment Policy of School Building Leader Effectiveness

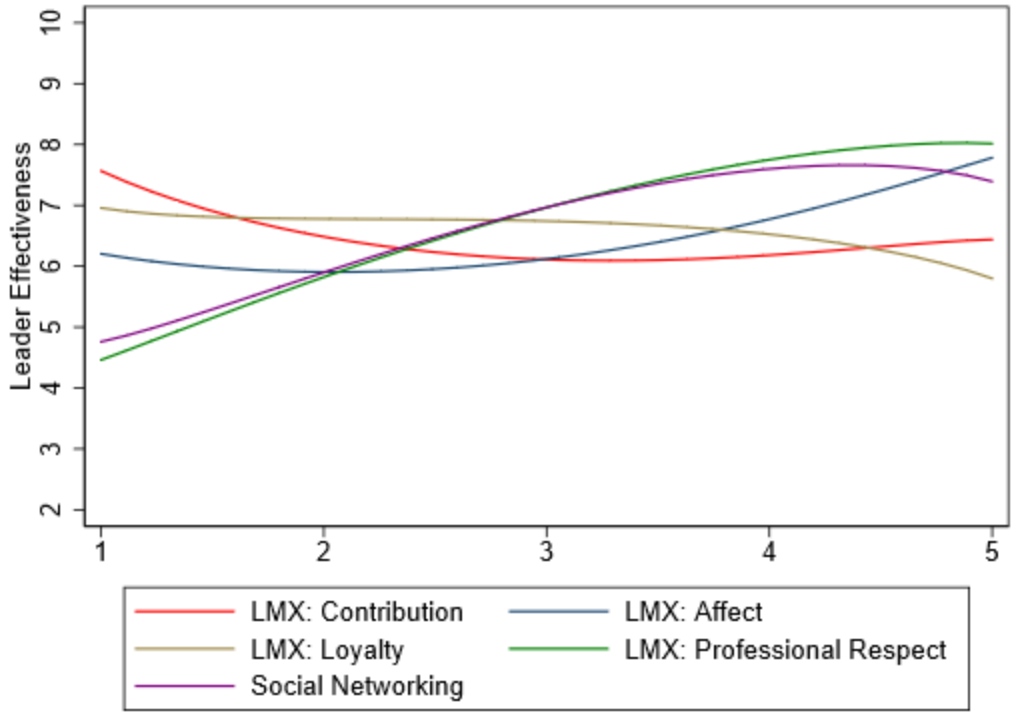


Figure A182.1. Judgment policy by leadership quality for Case 182 based on observed leader-effectiveness scores.

Case 182 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

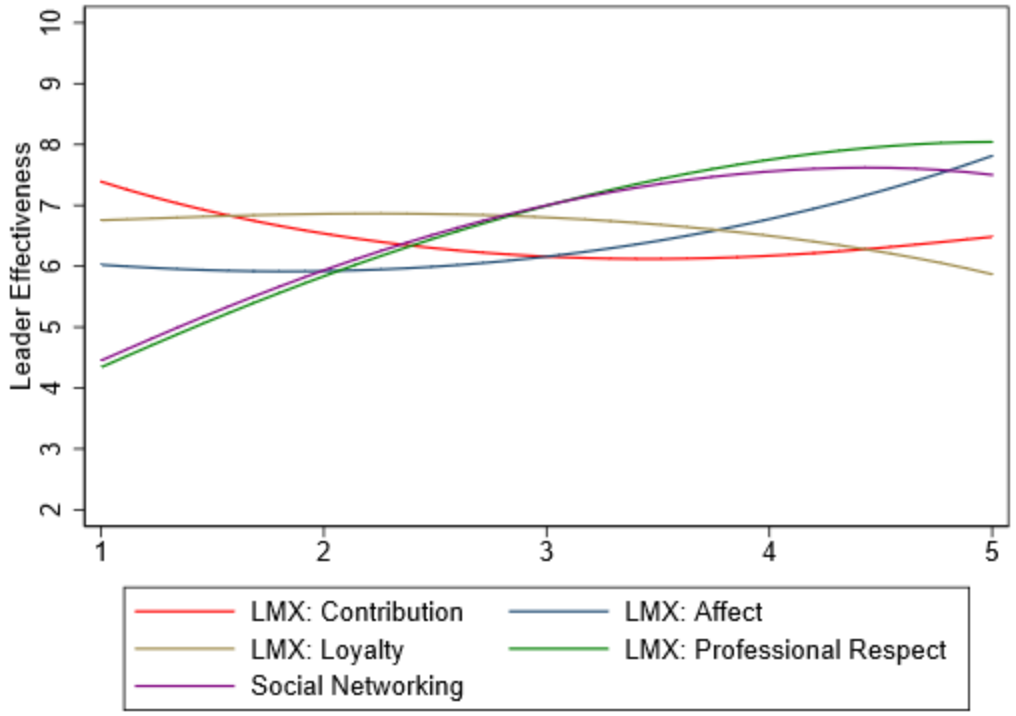


Figure A182.2. Judgment policy by leadership quality for Case 182 based on predicted leader-effectiveness scores from quadric regression.

Table A183.1

Case 183 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.20	1.28	0.15	.879	-2.43	2.82
contribution2	-0.02	0.21	-0.08	.933	-0.46	0.42
loyal	-0.91	1.36	-0.67	.511	-3.71	1.89
loyal2	0.17	0.22	0.78	.442	-0.28	0.63
affect	1.93	1.26	1.53	.139	-0.67	4.53
affect2	-0.28	0.21	-1.34	.193	-0.72	0.15
respect	1.50	1.23	1.21	.236	-1.04	4.03
respect2	-0.13	0.20	-0.64	.525	-0.55	0.29
network	0.36	1.32	0.27	.789	-2.36	3.07
network2	0.02	0.21	0.08	.938	-0.42	0.46

Note. $F_{(10, 26)} = 29.49$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A183.2

Case 183 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.15	0.23	0.64	.524	0.09
loyal	0.23	0.25	0.93	.359	0.14
affect	0.36	0.23	1.56	.130	0.23
respect	0.81	0.23	3.58	.001	0.50
network	0.58	0.25	2.33	.027	0.33

Note. $F_{(5, 31)} = 62.49$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 183 Observed Judgment Policy of School Building Leader Effectiveness

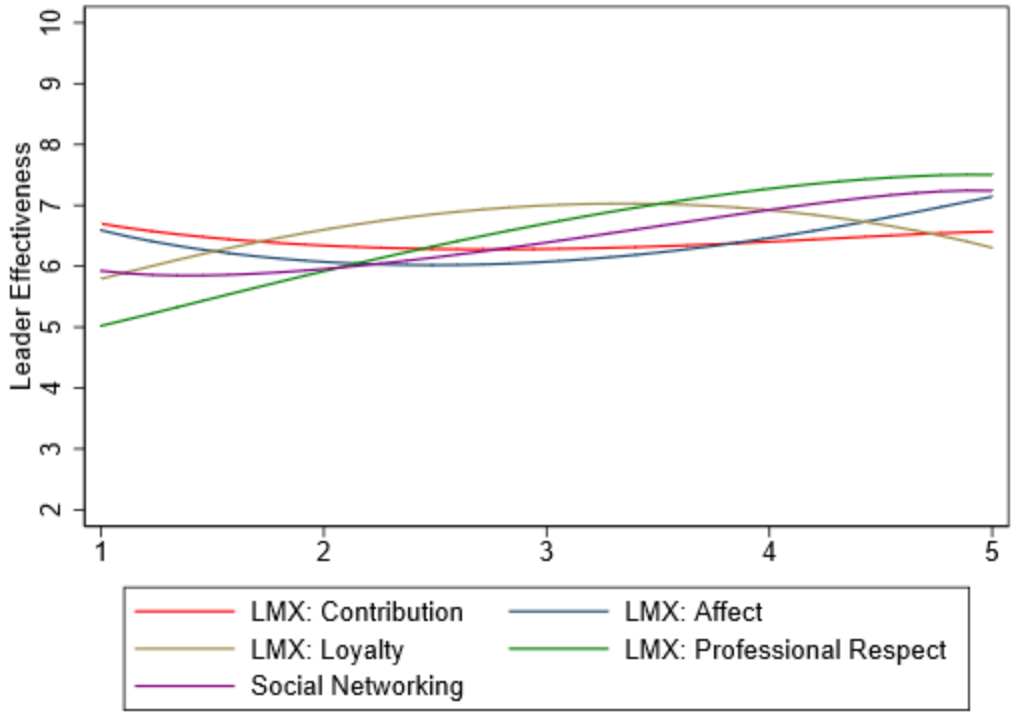


Figure A183.1. Judgment policy by leadership quality for Case 183 based on observed leader-effectiveness scores.

Case 183 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

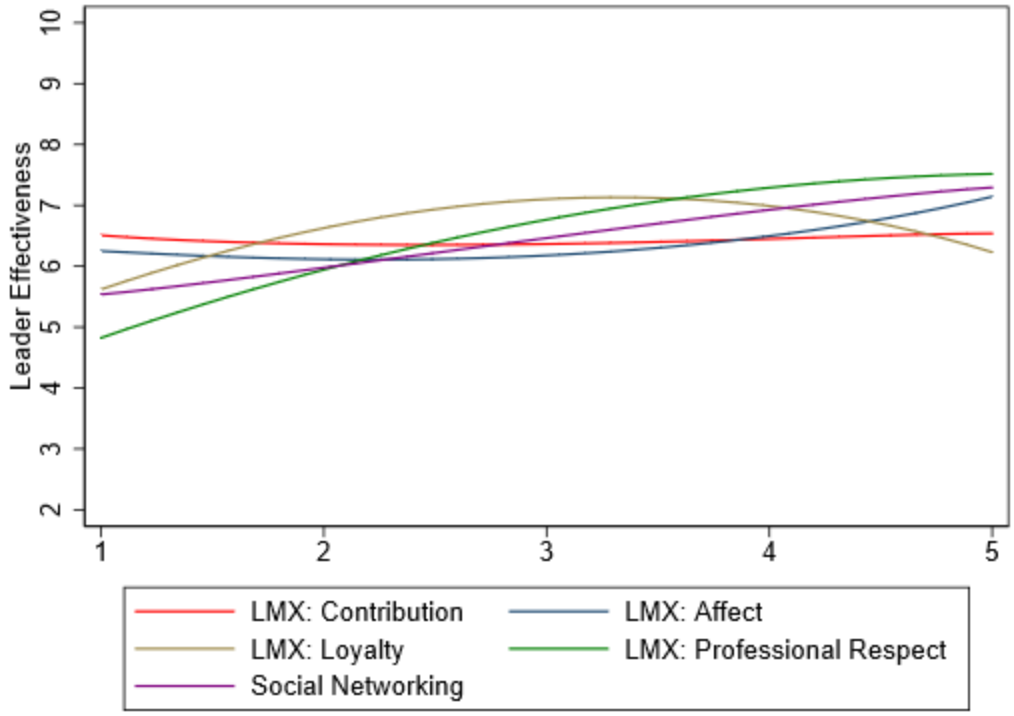


Figure A183.2. Judgment policy by leadership quality for Case 183 based on predicted leader-effectiveness scores from quadric regression.

Table A184.1

Case 184 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.81	0.70	1.16	.258	-0.63	2.24
contribution2	-0.09	0.12	-0.73	.472	-0.33	0.15
loyal	-0.69	0.75	-0.93	.363	-2.23	0.84
loyal2	0.13	0.12	1.06	.299	-0.12	0.38
affect	0.85	0.69	1.22	.233	-0.58	2.27
affect2	-0.13	0.12	-1.14	.265	-0.37	0.11
respect	1.04	0.67	1.54	.135	-0.34	2.43
respect2	-0.06	0.11	-0.57	.572	-0.29	0.17
network	0.43	0.72	0.60	.553	-1.05	1.92
network2	0.00	0.12	0.03	.979	-0.24	0.24

Note. $F_{(10, 26)} = 75.35$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .95$

Table A184.2

Case 184 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.34	0.13	2.70	.011	0.32
loyal	0.14	0.14	1.06	.297	0.13
affect	0.14	0.13	1.08	.289	0.13
respect	0.71	0.12	5.69	.000	0.67
network	0.53	0.14	3.82	.001	0.45

Note. $F_{(5, 31)} = 158.03$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .96$

Case 184 Observed Judgment Policy of School Building Leader Effectiveness

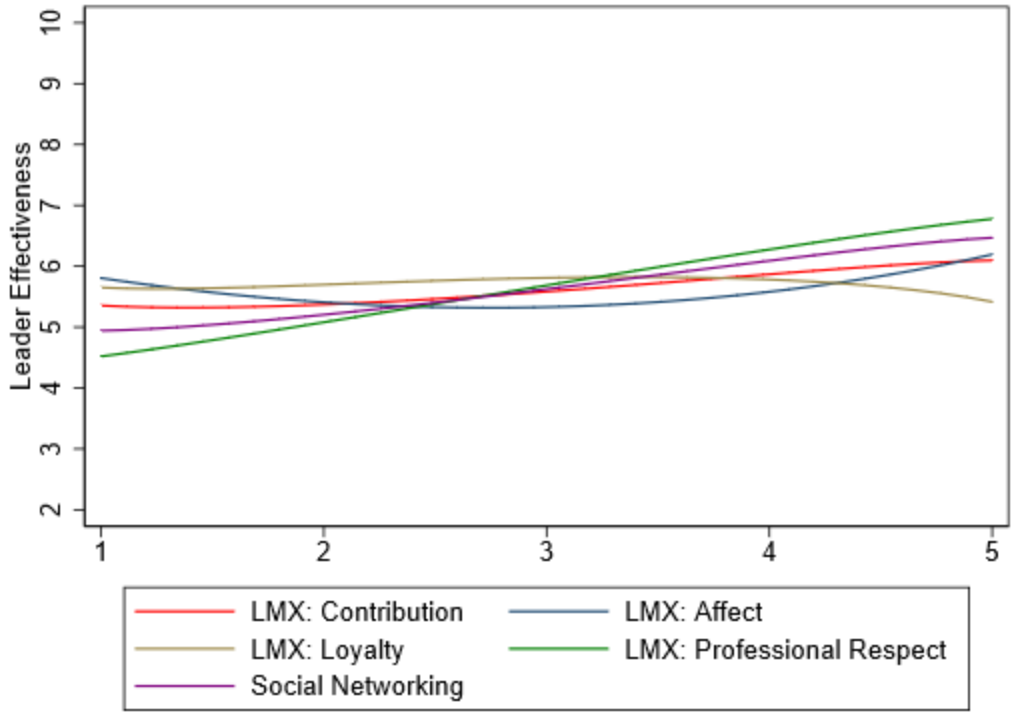


Figure A184.1. Judgment policy by leadership quality for Case 184 based on observed leader-effectiveness scores.

Case 184 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

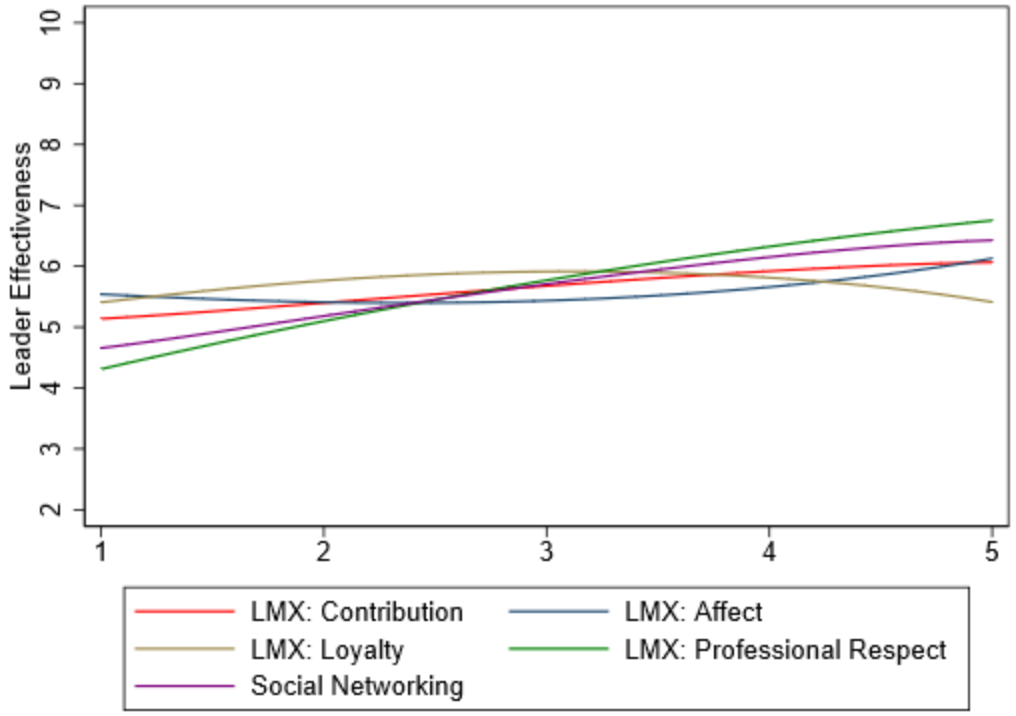


Figure A184.2. Judgment policy by leadership quality for Case 184 based on predicted leader-effectiveness scores from quadric regression.

Table A185.1

Case 185 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.65	0.73	-0.89	.383	-2.16	0.86
contribution2	0.11	0.12	0.88	.385	-0.14	0.36
loyal	0.46	0.78	0.59	.563	-1.15	2.07
loyal2	-0.05	0.13	-0.36	.723	-0.31	0.22
affect	1.38	0.73	1.90	.069	-0.11	2.88
affect2	-0.19	0.12	-1.58	.126	-0.44	0.06
respect	0.43	0.71	0.61	.545	-1.02	1.89
respect2	0.03	0.12	0.21	.832	-0.22	0.27
network	0.96	0.76	1.27	.216	-0.60	2.52
network2	-0.11	0.12	-0.88	.387	-0.36	0.15

Note. $F_{(10, 26)} = 62.91$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A185.2

Case 185 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.07	0.14	0.52	.605	0.07
loyal	0.26	0.15	1.78	.085	0.26
affect	0.32	0.14	2.30	.028	0.33
respect	0.73	0.14	5.39	.000	0.74
network	0.40	0.15	2.68	.012	0.37

Note. $F_{(5, 31)} = 122.69$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .94$

Case 185 Observed Judgment Policy of School Building Leader Effectiveness

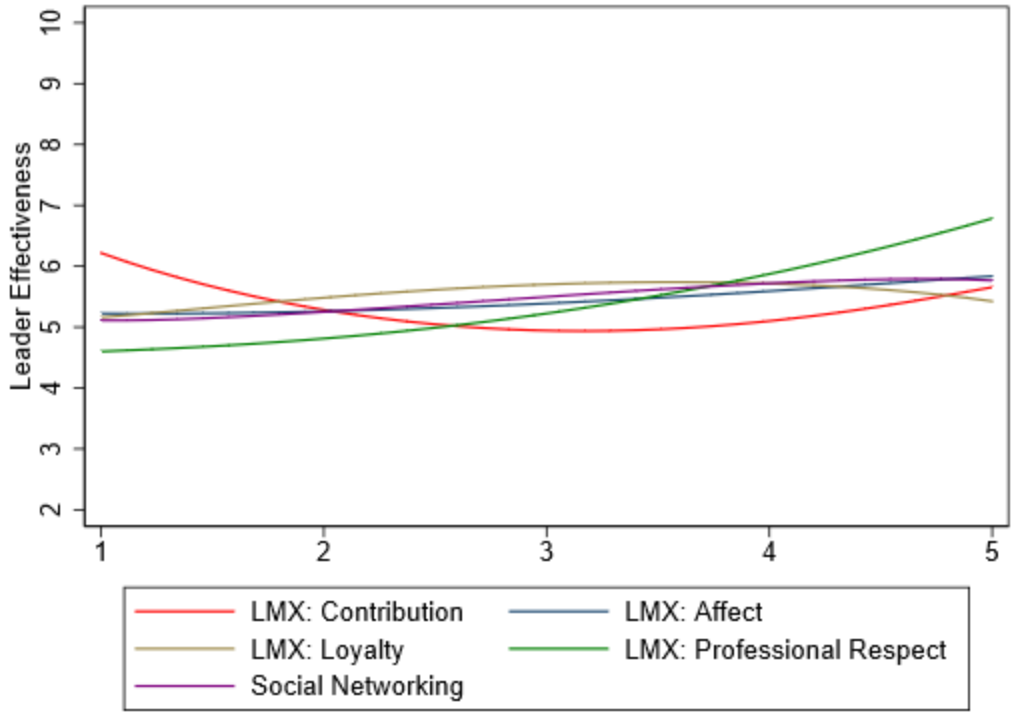


Figure A185.1. Judgment policy by leadership quality for Case 185 based on observed leader-effectiveness scores.

Case 185 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

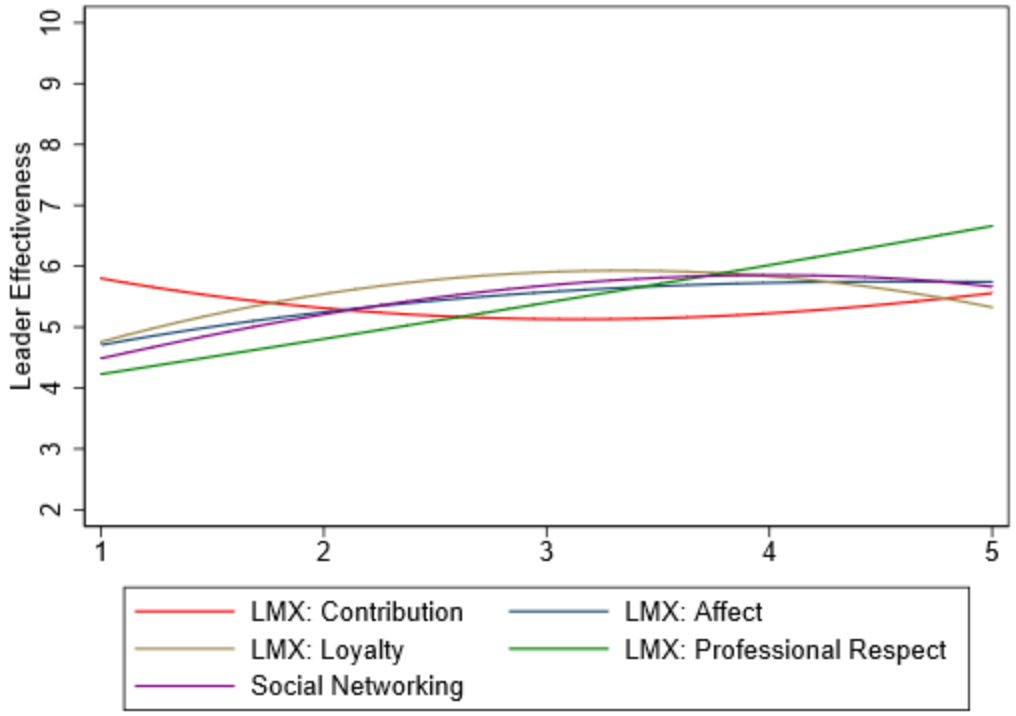


Figure A185.2. Judgment policy by leadership quality for Case 185 based on predicted leader-effectiveness scores from quadric regression.

Table A186.1

Case 186 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.28	0.80	0.35	.729	-1.37	1.93
contribution2	0.00	0.13	-0.02	.985	-0.28	0.27
loyal	0.10	0.86	0.11	.912	-1.67	1.86
loyal2	0.04	0.14	0.29	.771	-0.25	0.33
affect	1.06	0.80	1.33	.194	-0.57	2.70
affect2	-0.17	0.13	-1.30	.205	-0.45	0.10
respect	0.52	0.77	0.68	.505	-1.07	2.12
respect2	0.01	0.13	0.12	.908	-0.25	0.28
network	0.69	0.83	0.83	.413	-1.02	2.40
network2	-0.04	0.14	-0.33	.747	-0.32	0.23

Note. $F_{(10, 26)} = 68.10$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Table A186.2

Case 186 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.32	0.14	2.22	.034	0.29
loyal	0.40	0.15	2.62	.014	0.35
affect	0.11	0.15	0.72	.475	0.09
respect	0.70	0.14	4.99	.000	0.63
network	0.50	0.16	3.22	.003	0.41

Note. $F_{(5, 31)} = 147.92$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .95$

Case 186 Observed Judgment Policy of School Building Leader Effectiveness

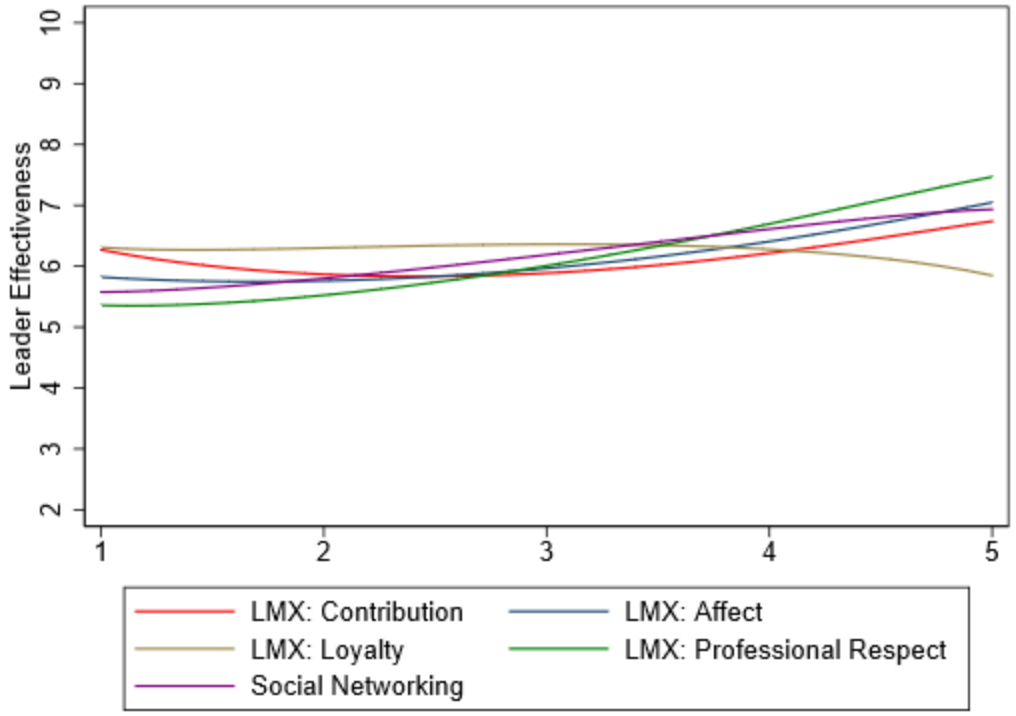


Figure A186.1. Judgment policy by leadership quality for Case 186 based on observed leader-effectiveness scores.

Case 186 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

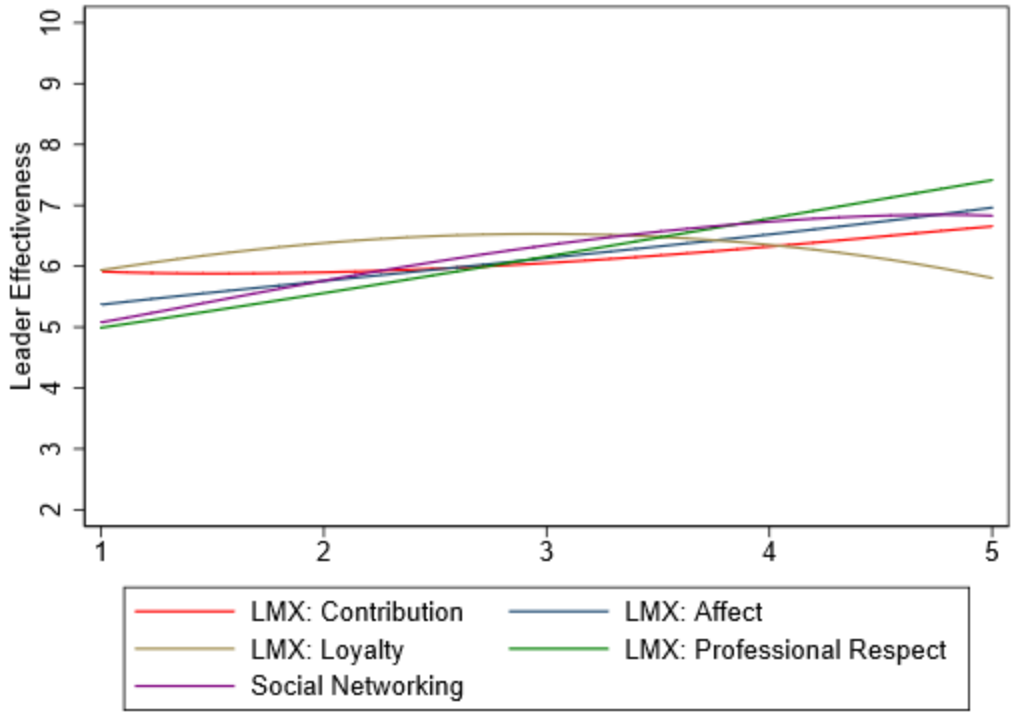


Figure A186.2. Judgment policy by leadership quality for Case 186 based on predicted leader-effectiveness scores from quadric regression.

Table A187.1

Case 187 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.06	1.29	0.04	.965	-2.60	2.71
contribution2	0.07	0.22	0.33	.743	-0.37	0.52
loyal	-2.01	1.38	-1.45	.158	-4.85	0.83
loyal2	0.38	0.22	1.71	.100	-0.08	0.84
affect	1.58	1.28	1.23	.230	-1.06	4.21
affect2	-0.25	0.22	-1.17	.252	-0.70	0.19
respect	1.67	1.25	1.33	.194	-0.90	4.23
respect2	-0.17	0.21	-0.80	.431	-0.59	0.26
network	0.72	1.34	0.54	.596	-2.03	3.47
network2	-0.04	0.22	-0.20	.846	-0.49	0.40

Note. $F_{(10, 26)} = 25.26$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A187.2

Case 187 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.46	0.24	1.92	.064	0.27
loyal	0.33	0.26	1.27	.212	0.18
affect	0.10	0.24	0.39	.697	0.06
respect	0.64	0.23	2.73	.010	0.37
network	0.47	0.26	1.79	.083	0.25

Note. $F_{(5, 31)} = 50.87$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 187 Observed Judgment Policy of School Building Leader Effectiveness

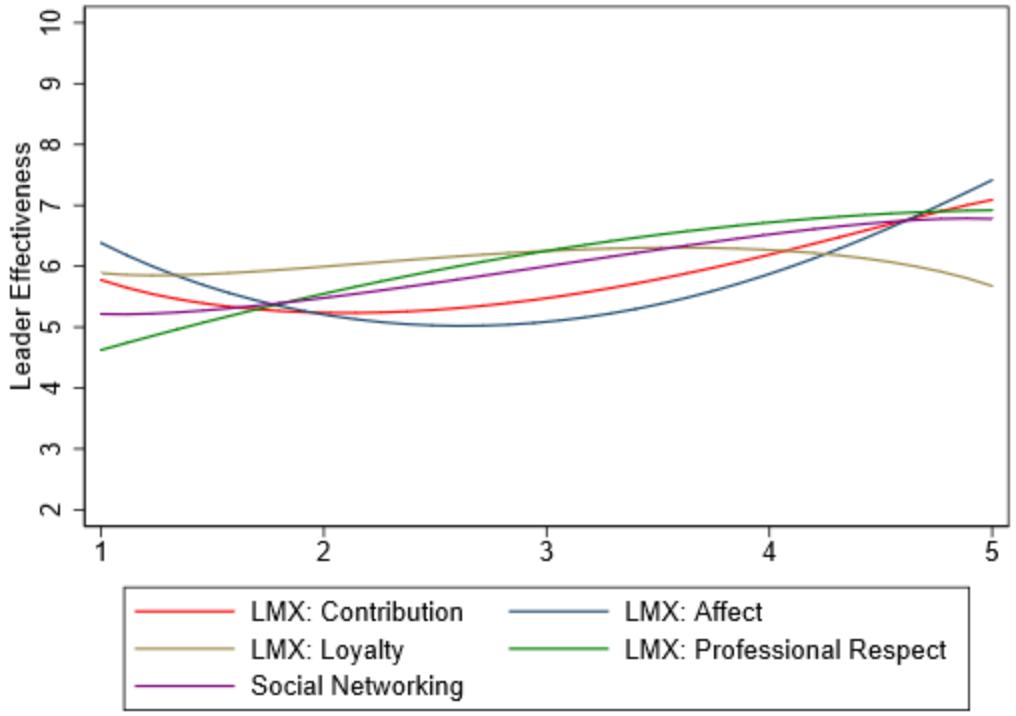


Figure A187.1. Judgment policy by leadership quality for Case 187 based on observed leader-effectiveness scores.

Case 187 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

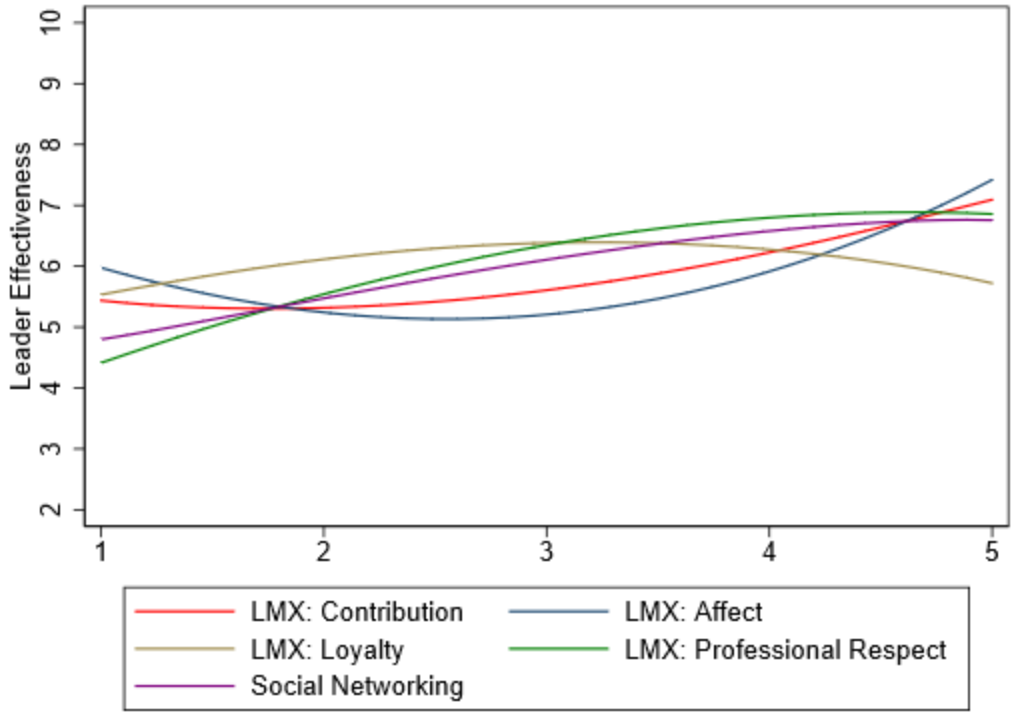


Figure A187.2. Judgment policy by leadership quality for Case 187 based on predicted leader-effectiveness scores from quadric regression.

Table A188.1

Case 188 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	*LL*	*UL*
contribution	0.83	0.85	0.98	.336	-0.91	2.57
contribution2	-0.09	0.14	-0.65	.520	-0.38	0.20
loyal	-2.12	0.91	-2.34	.027	-3.98	-0.26
loyal2	0.33	0.15	2.25	.033	0.03	0.63
affect	0.85	0.84	1.01	.320	-0.88	2.58
affect2	-0.13	0.14	-0.90	.376	-0.42	0.16
respect	2.24	0.82	2.74	.011	0.56	3.92
respect2	-0.21	0.14	-1.53	.138	-0.49	0.07
network	0.40	0.88	0.45	.655	-1.41	2.20
network2	-0.02	0.14	-0.17	.867	-0.32	0.27

Note. $F_{(10, 26)} = 45.59$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A188.2

Case 188 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	B
contribution	0.31	0.16	1.89	.068	0.22
loyal	-0.06	0.18	-0.36	.724	-0.04
affect	0.17	0.17	1.05	.303	0.12
respect	1.00	0.16	6.25	.000	0.70
network	0.31	0.18	1.72	.095	0.19

Note. $F_{(5, 31)} = 83.66$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 188 Observed Judgment Policy of School Building Leader Effectiveness

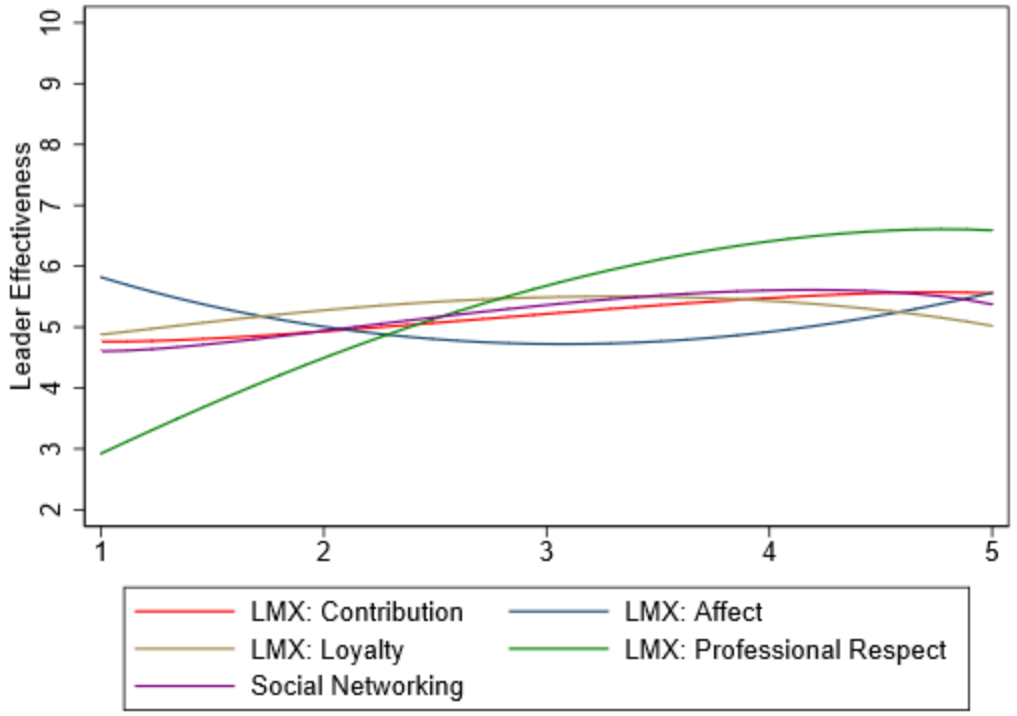


Figure A188.1. Judgment policy by leadership quality for Case 188 based on observed leader-effectiveness scores.

Case 188 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

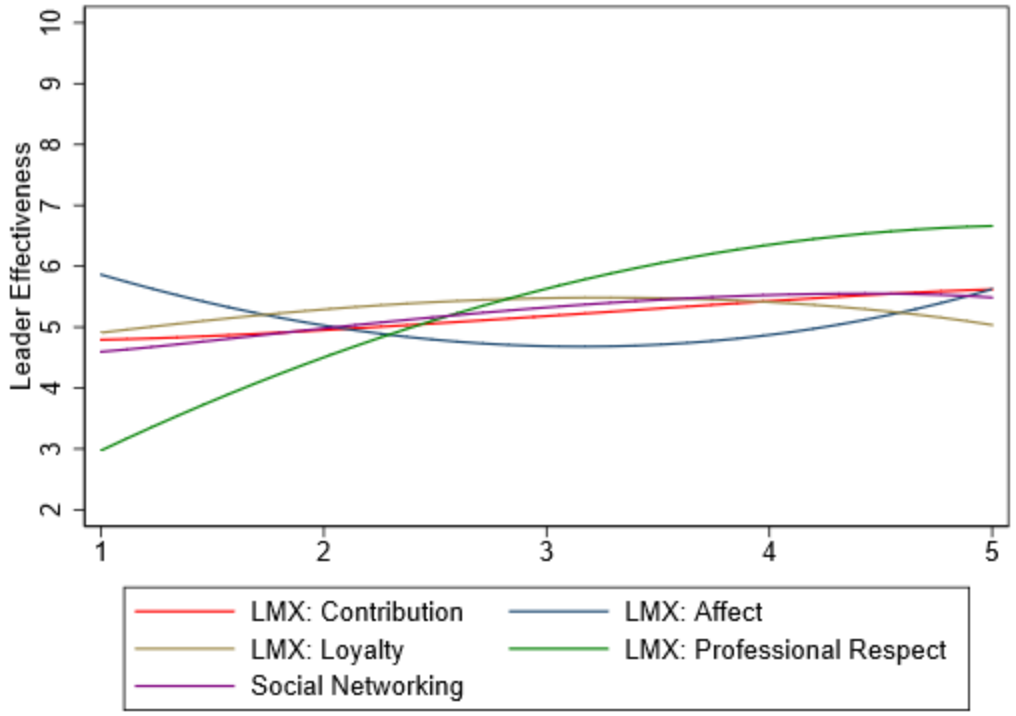


Figure A188.2. Judgment policy by leadership quality for Case 188 based on predicted leader-effectiveness scores from quadric regression.

Table A189.1

Case 189 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.04	0.95	-1.09	.286	-2.99	0.92
contribution2	0.23	0.16	1.44	.162	-0.10	0.56
loyal	-1.80	1.02	-1.77	.088	-3.89	0.29
loyal2	0.29	0.17	1.74	.094	-0.05	0.63
affect	1.85	0.94	1.96	.061	-0.09	3.78
affect2	-0.34	0.16	-2.16	.040	-0.67	-0.02
respect	-0.02	0.92	-0.02	.987	-1.90	1.87
respect2	0.16	0.15	1.05	.304	-0.15	0.47
network	2.16	0.98	2.20	.037	0.14	4.19
network2	-0.28	0.16	-1.77	.088	-0.61	0.05

Note. $F_{(10, 26)} = 24.92$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A189.2

Case 189 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.31	0.19	1.60	.120	0.19
loyal	-0.09	0.21	-0.42	.680	-0.05
affect	-0.22	0.20	-1.10	.282	-0.13
respect	0.95	0.19	4.95	.000	0.56
network	0.41	0.21	1.93	.063	0.22

Note. $F_{(5, 31)} = 39.52$ ($p < .001$), $R^2 = .86$, Adjusted $R^2 = .84$

Case 189 Observed Judgment Policy of School Building Leader Effectiveness

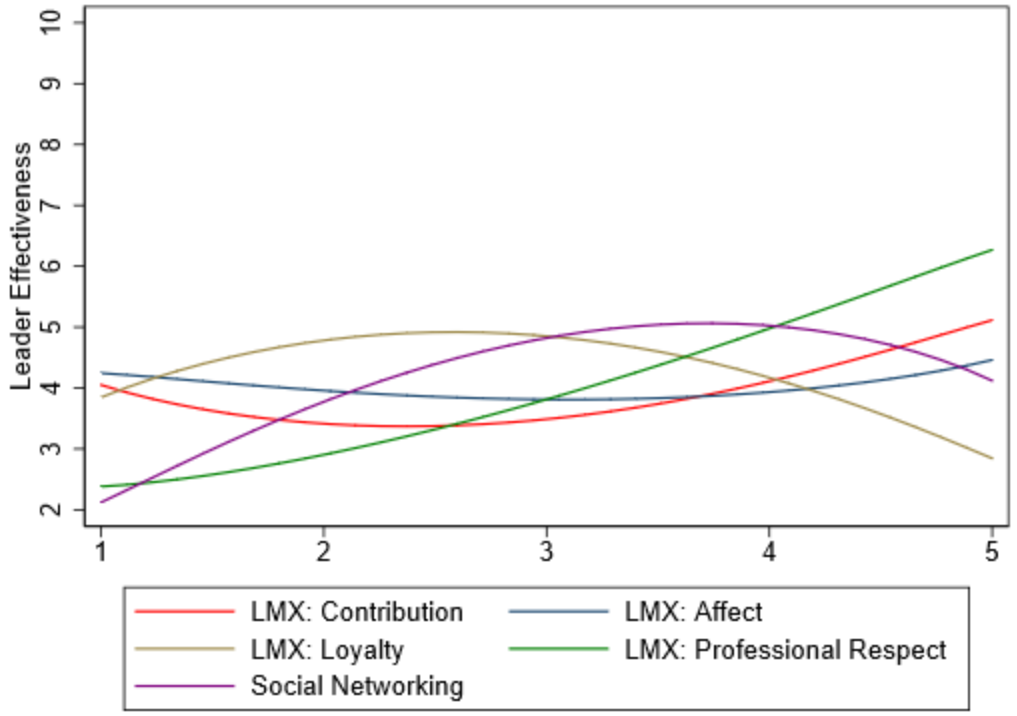


Figure A189.1. Judgment policy by leadership quality for Case 189 based on observed leader-effectiveness scores.

Case 189 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

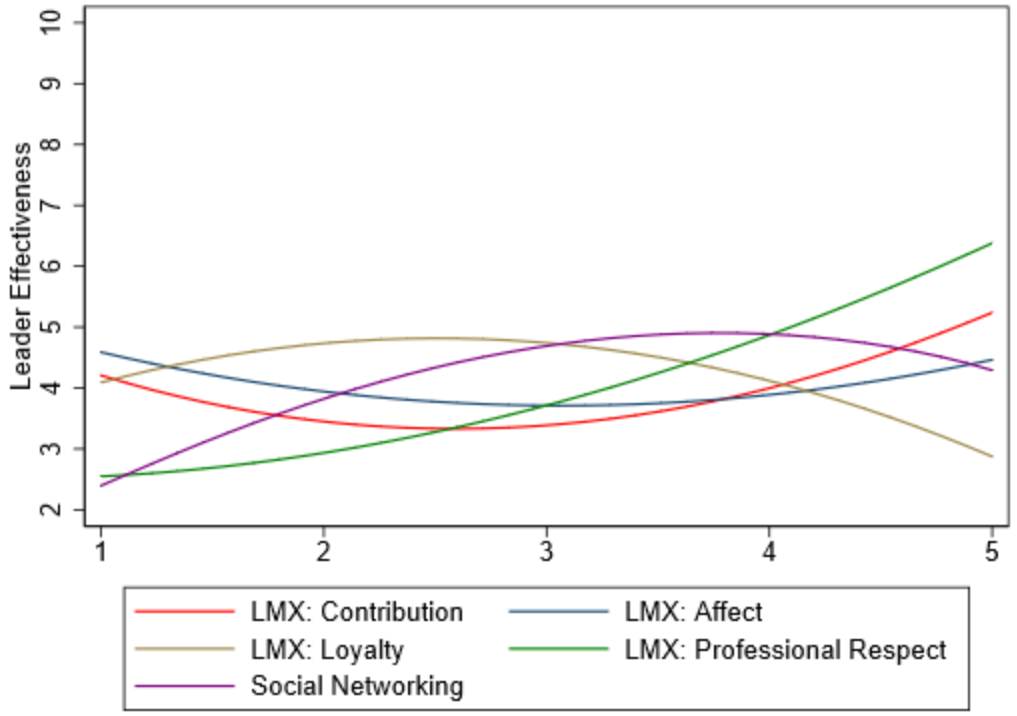


Figure A189.2. Judgment policy by leadership quality for Case 189 based on predicted leader-effectiveness scores from quadric regression.

Table A190.1

Case 190 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	*LL*	*UL*
contribution	2.22	1.43	1.55	.134	-0.73	5.17
contribution2	-0.26	0.24	-1.10	.281	-0.76	0.23
loyal	-1.91	1.53	-1.25	.223	-5.06	1.24
loyal2	0.38	0.25	1.53	.138	-0.13	0.89
affect	0.82	1.42	0.57	.571	-2.11	3.74
affect2	-0.14	0.24	-0.57	.576	-0.63	0.36
respect	2.36	1.38	1.70	.101	-0.49	5.20
respect2	-0.12	0.23	-0.54	.591	-0.60	0.35
network	-2.53	1.49	-1.70	.100	-5.58	0.52
network2	0.44	0.24	1.82	.080	-0.06	0.94

Note. $F_{(10, 26)} = 22.81$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A190.2

Case 190 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*P*	B
contribution	0.46	0.28	1.65	.109	0.20
loyal	0.26	0.30	0.88	.388	0.11
affect	-0.09	0.28	-0.30	.763	-0.04
respect	1.34	0.27	4.89	.000	0.58
network	0.03	0.30	0.11	.914	0.01

Note. $F_{(5, 31)} = 40.43$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .85$

Case 190 Observed Judgment Policy of School Building Leader Effectiveness

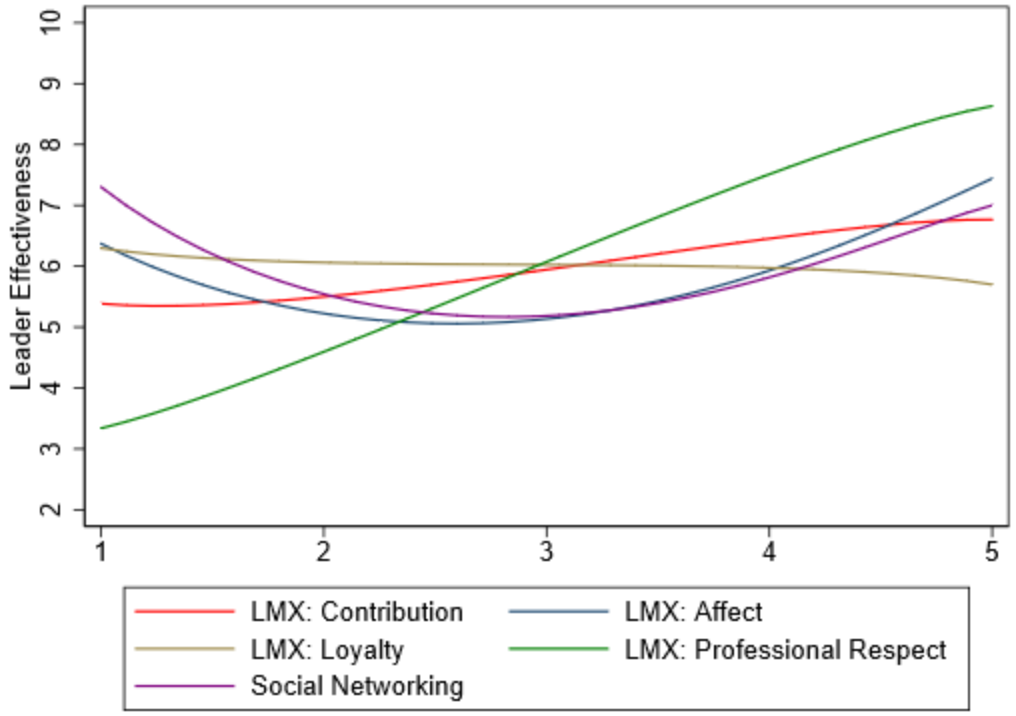


Figure A190.1. Judgment policy by leadership quality for Case 190 based on observed leader-effectiveness scores.

Case 190 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

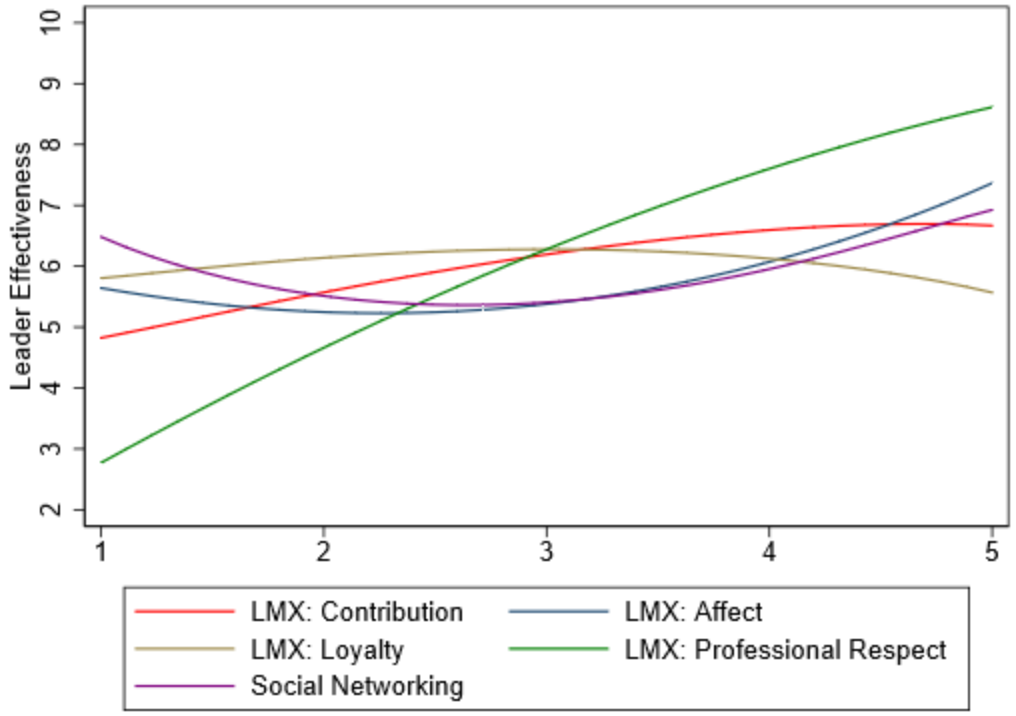


Figure A190.2. Judgment policy by leadership quality for Case 190 based on predicted leader-effectiveness scores from quadric regression.

Table A191.1

Case 191 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.77	1.05	0.74	.466	-1.38	2.92
contribution2	-0.12	0.17	-0.70	.492	-0.48	0.24
loyal	0.21	1.12	0.18	.855	-2.09	2.50
loyal2	0.04	0.18	0.22	.831	-0.33	0.41
affect	2.54	1.04	2.45	.021	0.41	4.67
affect2	-0.44	0.17	-2.54	.018	-0.80	-0.08
respect	-0.32	1.01	-0.32	.752	-2.40	1.75
respect2	0.13	0.17	0.80	.432	-0.21	0.48
network	-0.64	1.08	-0.59	.562	-2.86	1.59
network2	0.20	0.18	1.14	.264	-0.16	0.56

Note. $F_{(10, 26)} = 33.39$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .90$

Table A191.2

Case 191 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.06	0.21	0.29	.776	0.04
loyal	0.48	0.22	2.16	.038	0.30
affect	0.01	0.21	0.05	.962	0.01
respect	0.56	0.20	2.77	.009	0.36
network	0.70	0.23	3.12	.004	0.41

Note. $F_{(5, 31)} = 58.08$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .89$

Case 191 Observed Judgment Policy of School Building Leader Effectiveness

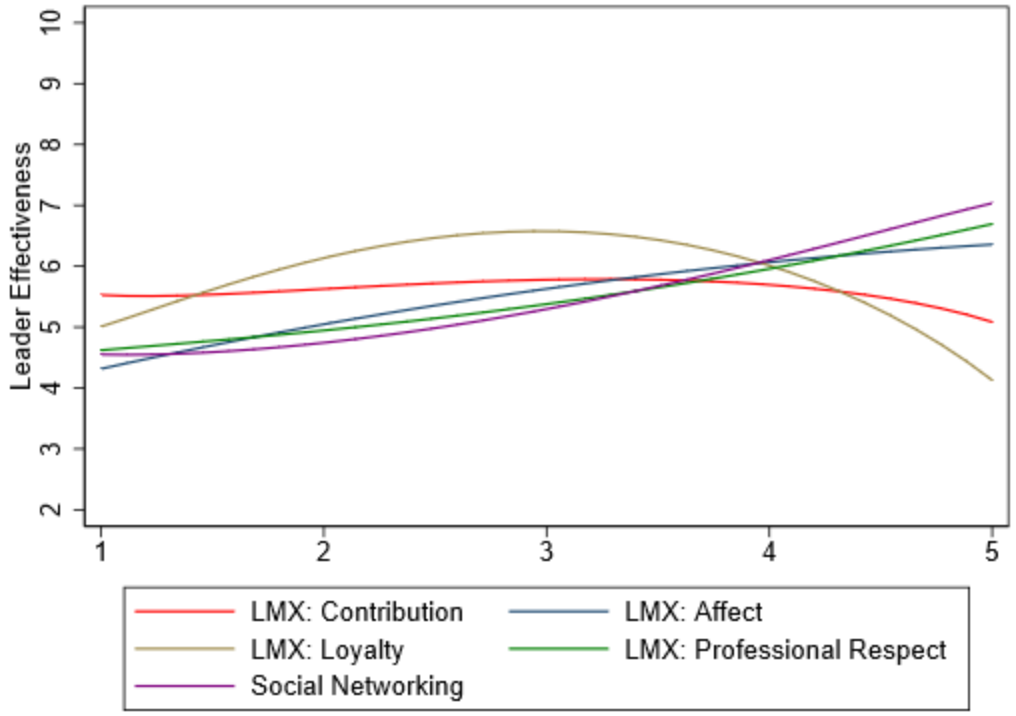


Figure A191.1. Judgment policy by leadership quality for Case 191 based on observed leader-effectiveness scores.

Case 191 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

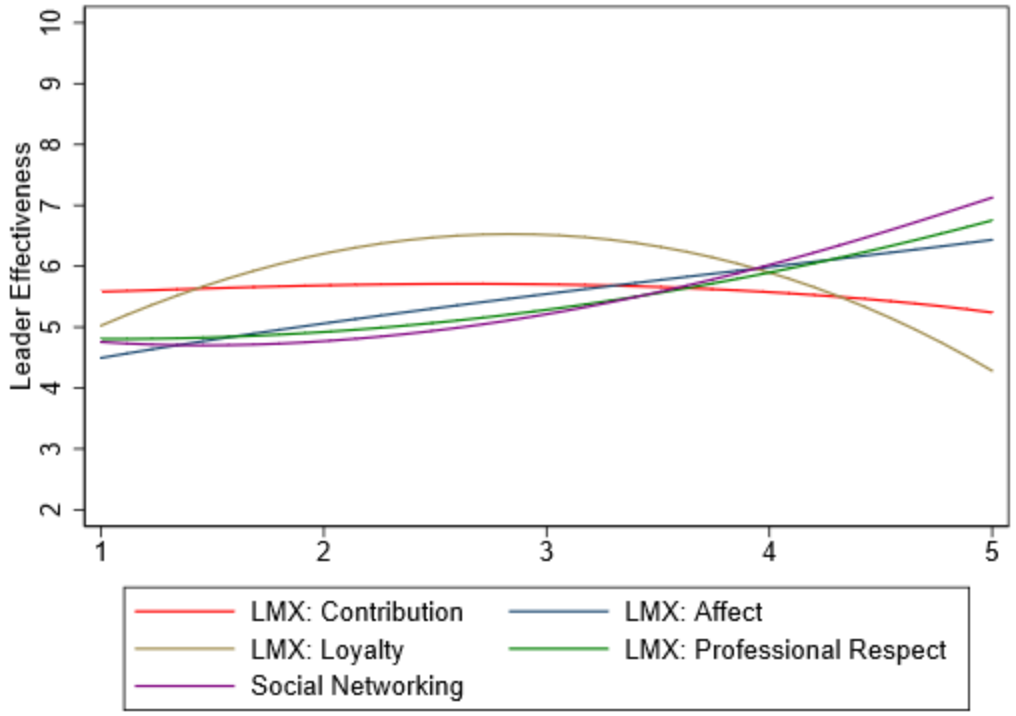


Figure A191.2. Judgment policy by leadership quality for Case 191 based on predicted leader-effectiveness scores from quadric regression.

Table A192.1

Case 192 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.42	1.34	-0.32	.755	-3.18	2.33
contribution2	0.10	0.22	0.46	.649	-0.36	0.56
loyal	-1.81	1.43	-1.26	.218	-4.75	1.13
loyal2	0.35	0.23	1.51	.143	-0.13	0.83
affect	1.92	1.33	1.45	.159	-0.81	4.65
affect2	-0.31	0.22	-1.38	.179	-0.77	0.15
respect	2.47	1.29	1.91	.068	-0.19	5.12
respect2	-0.23	0.21	-1.07	.292	-0.67	0.21
network	-0.18	1.39	-0.13	.897	-3.03	2.67
network2	0.11	0.23	0.47	.641	-0.36	0.57

Note. $F_{(10, 26)} = 25.39$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A192.2

Case 192 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.13	0.25	0.52	.605	0.07
loyal	0.31	0.27	1.16	.256	0.15
affect	0.10	0.25	0.38	.704	0.05
respect	1.03	0.25	4.19	.000	0.51
network	0.47	0.27	1.72	.096	0.21

Note. $F_{(5, 31)} = 49.59$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 192 Observed Judgment Policy of School Building Leader Effectiveness

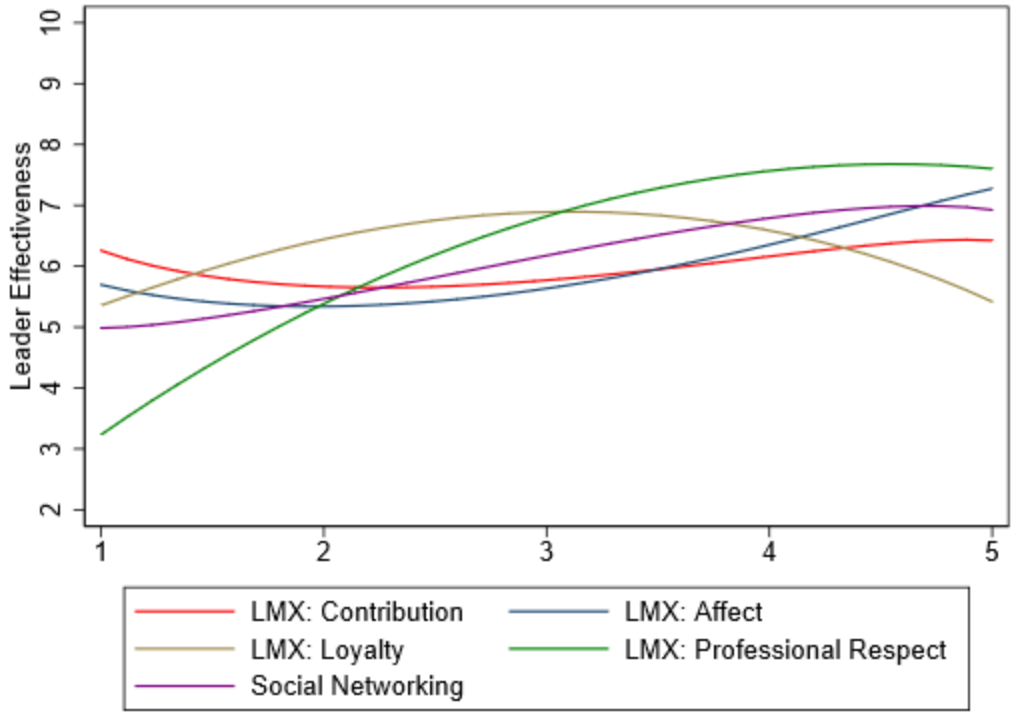


Figure A192.1. Judgment policy by leadership quality for Case 192 based on observed leader-effectiveness scores.

Case 192 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

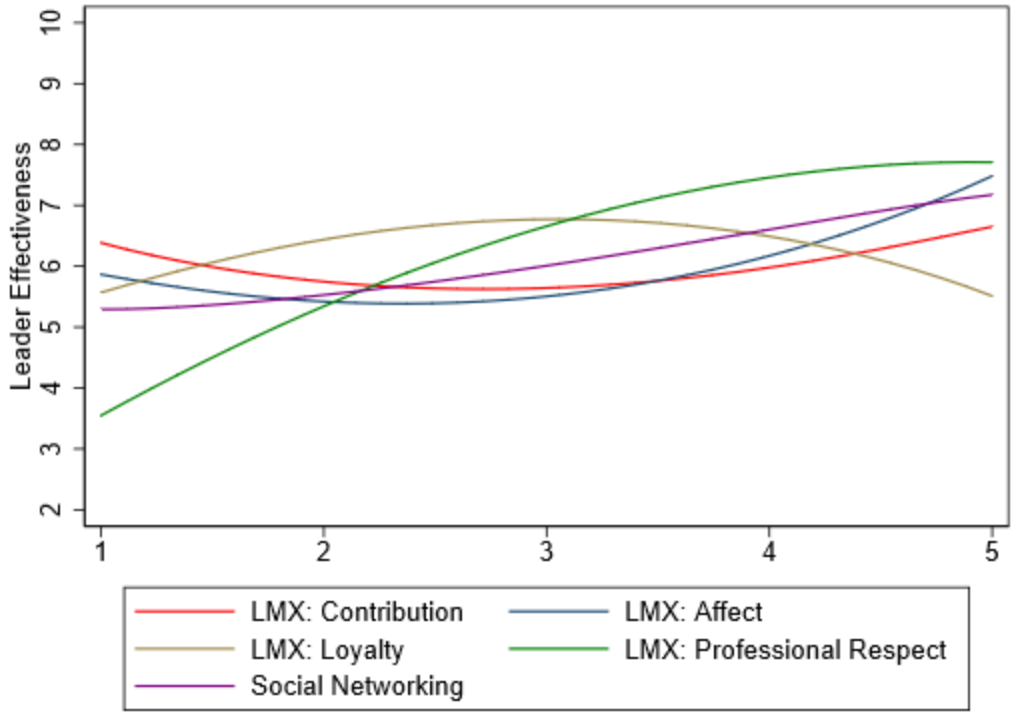


Figure A192.2. Judgment policy by leadership quality for Case 192 based on predicted leader-effectiveness scores from quadric regression.

Table A193.1

Case 193 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.16	1.25	0.93	.363	-1.41	3.74
contribution2	-0.10	0.21	-0.49	.627	-0.53	0.33
loyal	-3.83	1.34	-2.86	.008	-6.58	-1.07
loyal2	0.56	0.22	2.57	.016	0.11	1.00
affect	2.12	1.24	1.71	.099	-0.43	4.68
affect2	-0.34	0.21	-1.64	.113	-0.77	0.09
respect	0.67	1.21	0.55	.586	-1.82	3.15
respect2	0.08	0.20	0.39	.700	-0.33	0.49
network	1.16	1.30	0.90	.377	-1.50	3.83
network2	-0.13	0.21	-0.62	.544	-0.56	0.30

Note. $F_{(10, 26)} = 17.34$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .82$

Table A193.2

Case 193 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.51	0.24	2.08	.046	0.26
loyal	-0.48	0.26	-1.82	.078	-0.23
affect	0.09	0.25	0.36	.722	0.05
respect	1.04	0.24	4.35	.000	0.53
network	0.35	0.27	1.31	.199	0.16

Note. $F_{(5, 31)} = 30.23$ ($p < .001$), $R^2 = .83$, Adjusted $R^2 = .80$

Case 193 Observed Judgment Policy of School Building Leader Effectiveness

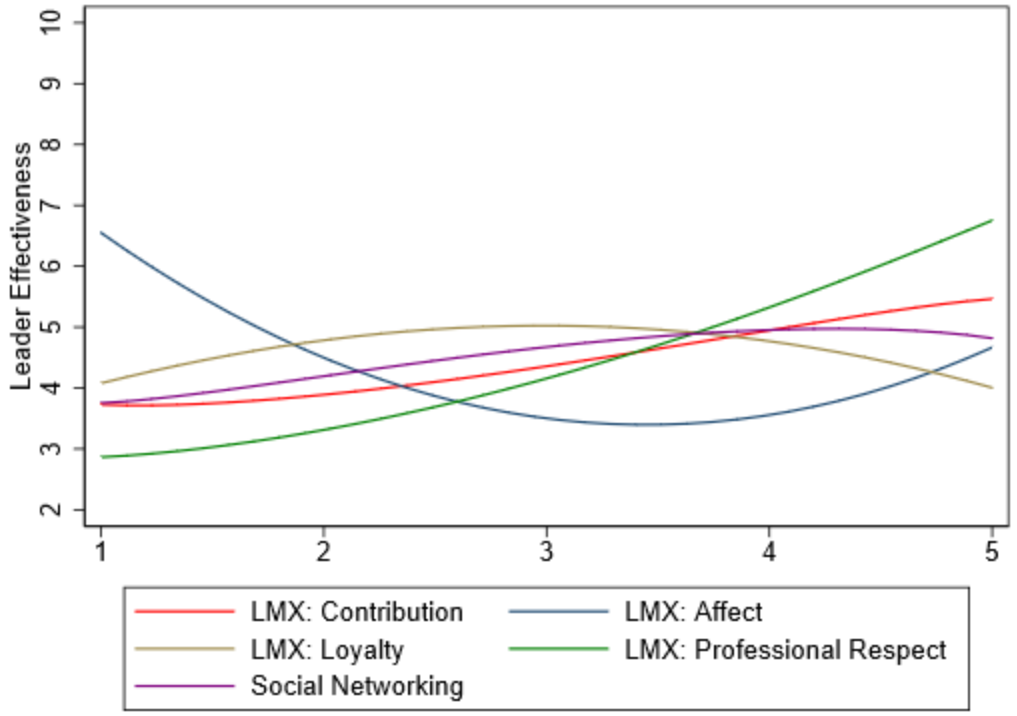


Figure A193.1. Judgment policy by leadership quality for Case 193 based on observed leader-effectiveness scores.

Case 193 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

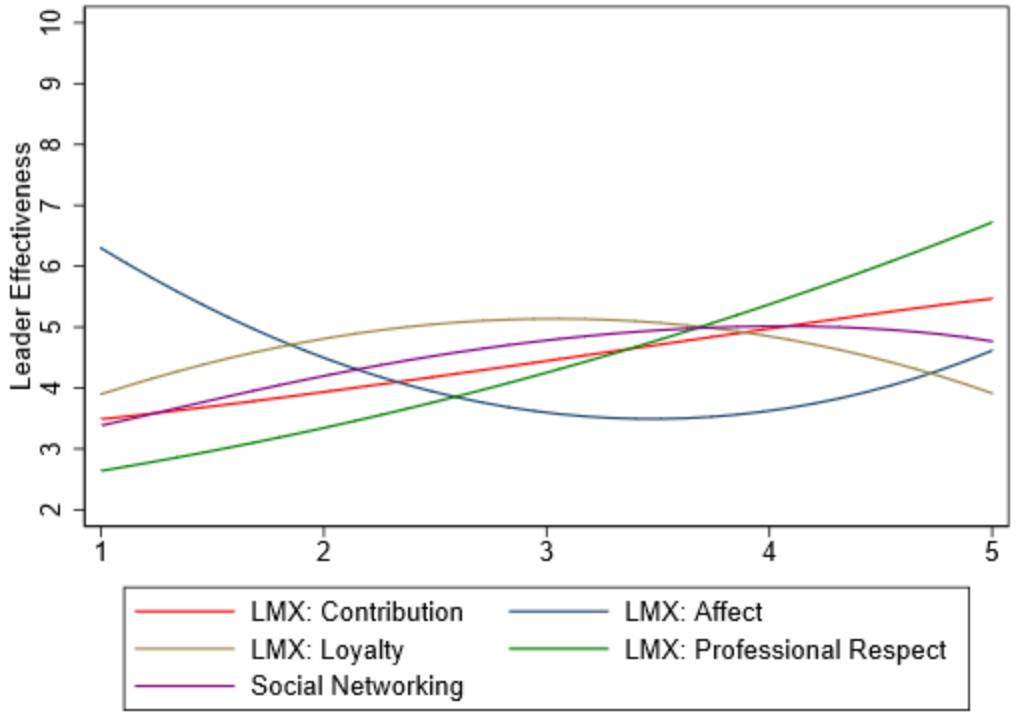


Figure A193.2. Judgment policy by leadership quality for Case 193 based on predicted leader-effectiveness scores from quadric regression.

Table A194.1

Case 194 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.11	1.24	0.89	.380	-1.44	3.65
contribution2	-0.08	0.21	-0.40	.690	-0.51	0.34
loyal	-2.93	1.32	-2.21	.036	-5.65	-0.21
loyal2	0.49	0.21	2.28	.031	0.05	0.93
affect	1.60	1.23	1.30	.205	-0.93	4.12
affect2	-0.28	0.21	-1.36	.187	-0.70	0.14
respect	2.19	1.20	1.83	.079	-0.27	4.64
respect2	-0.17	0.20	-0.87	.394	-0.58	0.24
network	-0.03	1.28	-0.02	.983	-2.66	2.61
network2	0.04	0.21	0.18	.857	-0.39	0.47

Note. $F_{(10, 26)} = 26.11$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A194.2

Case 194 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.57	0.24	2.41	.022	0.31
loyal	0.05	0.25	0.19	.851	0.02
affect	-0.03	0.24	-0.14	.891	-0.02
respect	1.08	0.23	4.67	.000	0.58
network	0.21	0.26	0.83	.413	0.10

Note. $F_{(5, 31)} = 48.38$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 194 Observed Judgment Policy of School Building Leader Effectiveness

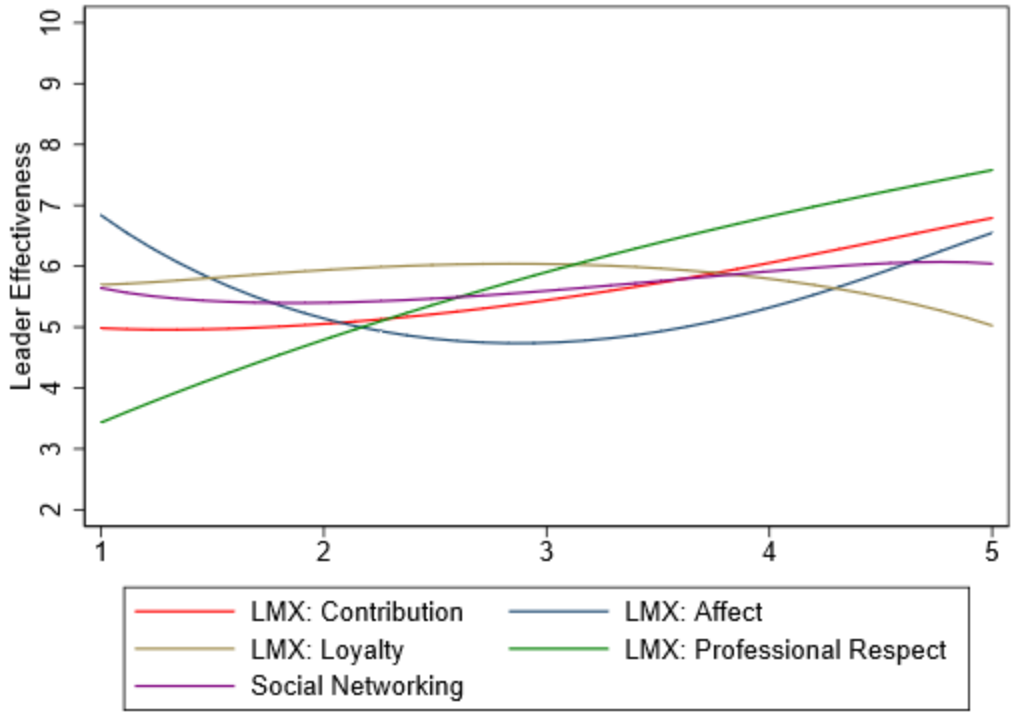


Figure A194.1. Judgment policy by leadership quality for Case 194 based on observed leader-effectiveness scores.

Case 194 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

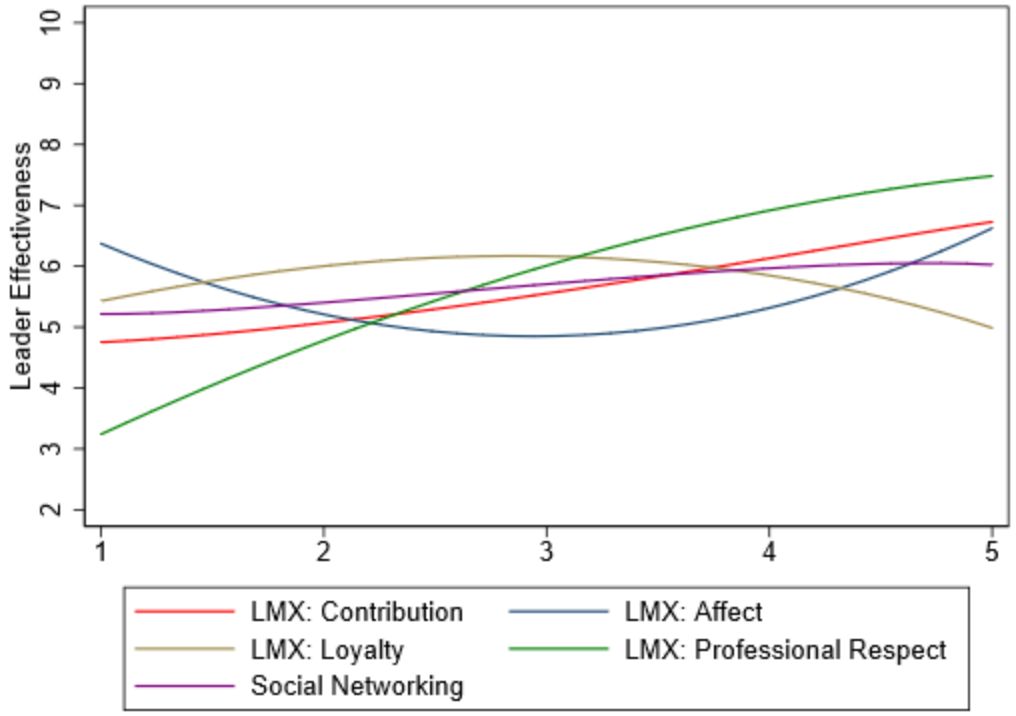


Figure A194.2. Judgment policy by leadership quality for Case 194 based on predicted leader-effectiveness scores from quadric regression.

Table A195.1

Case 195 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.54	1.55	0.35	.728	-2.63	3.72
contribution2	-0.09	0.26	-0.35	.732	-0.62	0.44
loyal	-1.80	1.65	-1.09	.286	-5.20	1.60
loyal2	0.38	0.27	1.40	.173	-0.18	0.93
affect	2.31	1.53	1.50	.144	-0.84	5.46
affect2	-0.33	0.26	-1.26	.218	-0.85	0.20
respect	1.25	1.49	0.84	.408	-1.81	4.32
respect2	-0.14	0.25	-0.57	.575	-0.65	0.37
network	0.12	1.60	0.07	.943	-3.18	3.41
network2	0.06	0.26	0.21	.832	-0.48	0.59

Note. $F_{(10, 26)} = 16.66$ ($p < .001$), $R^2 = .87$, Adjusted $R^2 = .81$

Table A195.2

Case 195 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.02	0.28	0.06	.955	0.01
loyal	0.52	0.30	1.74	.092	0.26
affect	0.46	0.29	1.60	.120	0.24
respect	0.41	0.28	1.51	.142	0.22
network	0.52	0.31	1.71	.097	0.25

Note. $F_{(5, 31)} = 34.49$ ($p < .001$), $R^2 = .85$, Adjusted $R^2 = .82$

Case 195 Observed Judgment Policy of School Building Leader Effectiveness

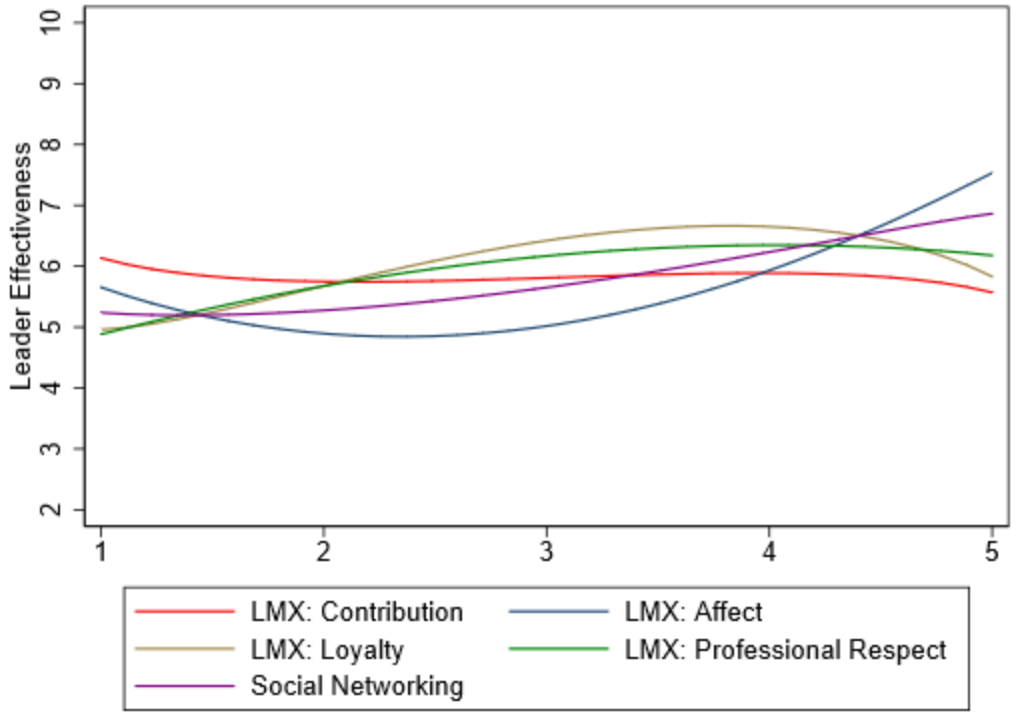


Figure A195.1. Judgment policy by leadership quality for Case 195 based on observed leader-effectiveness scores.

Case 195 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

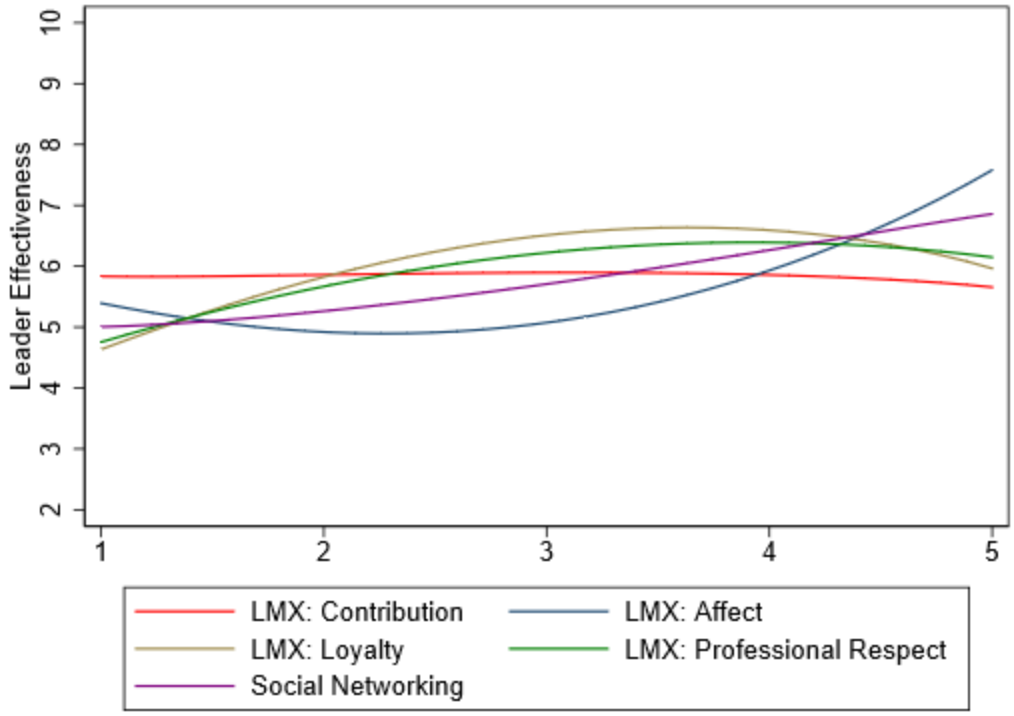


Figure A195.2. Judgment policy by leadership quality for Case 195 based on predicted leader-effectiveness scores from quadric regression.

Table A196.1

Case 196 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.77	1.07	0.72	.480	-1.43	2.96
contribution2	-0.12	0.18	-0.66	.515	-0.48	0.25
loyal	-1.01	1.14	-0.89	.383	-3.36	1.33
loyal2	0.19	0.19	1.02	.318	-0.19	0.57
affect	-0.43	1.06	-0.41	.685	-2.61	1.74
affect2	0.09	0.18	0.51	.613	-0.27	0.46
respect	1.41	1.03	1.36	.184	-0.71	3.52
respect2	-0.02	0.17	-0.11	.909	-0.37	0.33
network	0.88	1.11	0.80	.432	-1.39	3.15
network2	-0.11	0.18	-0.59	.562	-0.47	0.26

Note. $F_{(10, 26)} = 30.07$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .89$

Table A196.2

Case 196 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.07	0.19	0.38	.707	0.04
loyal	0.13	0.20	0.63	.535	0.07
affect	0.10	0.19	0.54	.594	0.06
respect	1.23	0.18	6.68	.000	0.72
network	0.21	0.21	1.04	.306	0.11

Note. $F_{(5, 31)} = 66.74$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 196 Observed Judgment Policy of School Building Leader Effectiveness

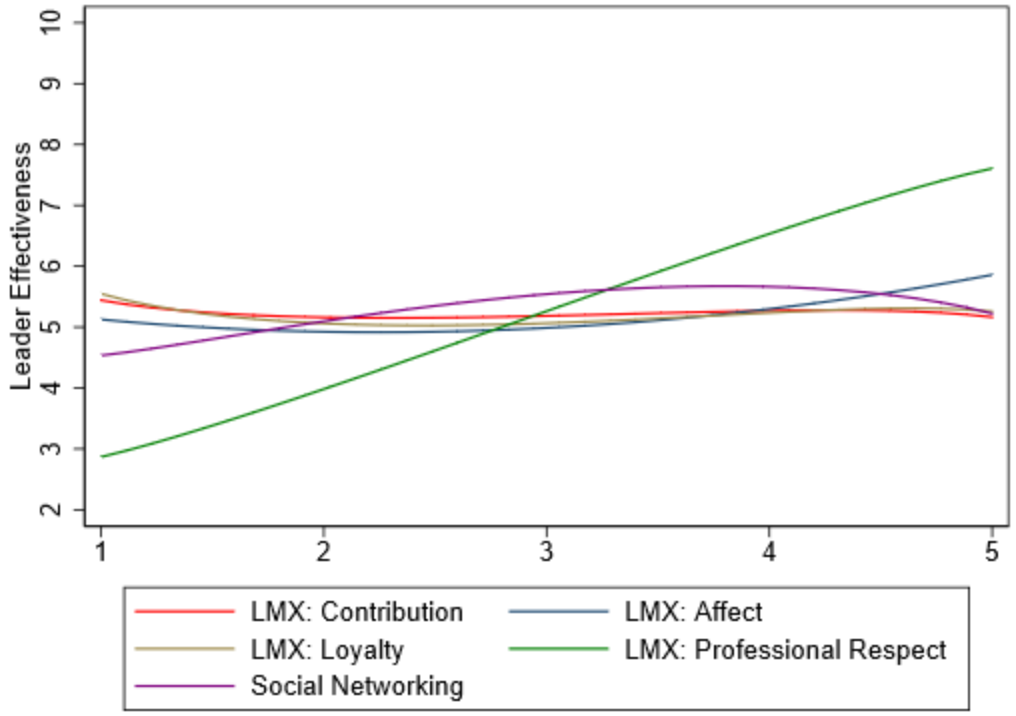


Figure A196.1. Judgment policy by leadership quality for Case 196 based on observed leader-effectiveness scores.

Case 196 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

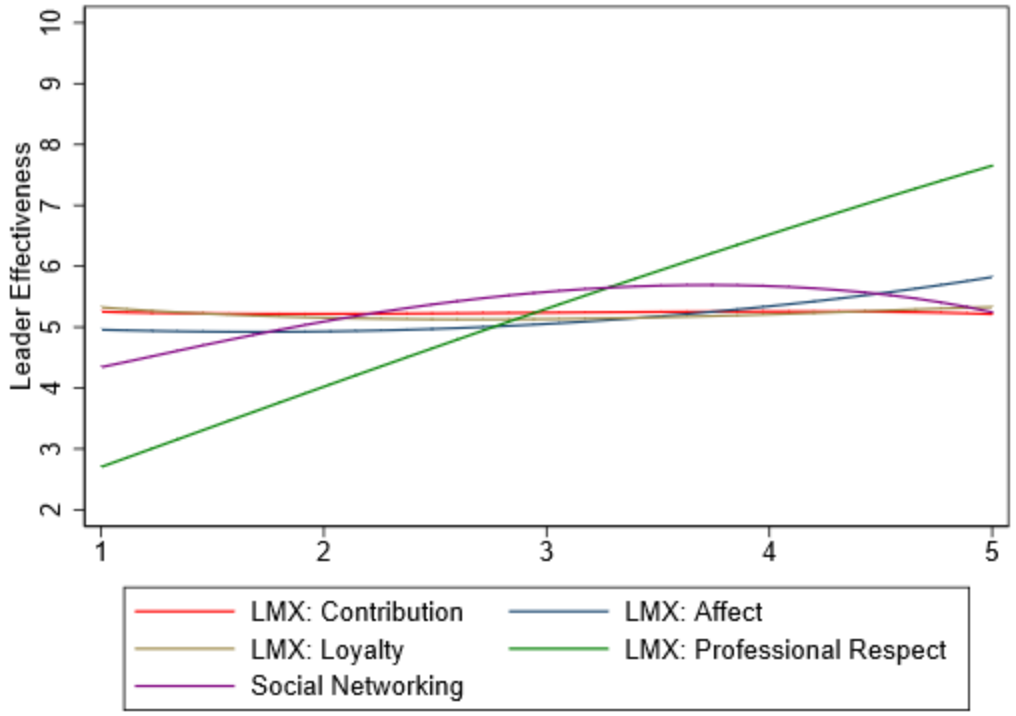


Figure A196.2. Judgment policy by leadership quality for Case 196 based on predicted leader-effectiveness scores from quadric regression.

Table A197.1

Case 197 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.16	0.98	0.16	.872	-1.86	2.18
contribution2	0.01	0.16	0.03	.973	-0.33	0.34
loyal	-1.61	1.05	-1.53	.139	-3.77	0.56
loyal2	0.28	0.17	1.65	.112	-0.07	0.63
affect	0.30	0.98	0.31	.759	-1.70	2.31
affect2	-0.06	0.16	-0.34	.740	-0.39	0.28
respect	1.20	0.95	1.26	.220	-0.76	3.15
respect2	-0.01	0.16	-0.07	.944	-0.33	0.31
network	2.29	1.02	2.25	.033	0.20	4.39
network2	-0.33	0.17	-2.00	.056	-0.67	0.01

Note. $F_{(10, 26)} = 43.64$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A197.2

Case 197 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.27	0.19	1.46	.156	0.17
loyal	0.16	0.20	0.80	.427	0.09
affect	0.03	0.19	0.19	.854	0.02
respect	1.18	0.18	6.47	.000	0.72
network	0.32	0.20	1.56	.128	0.18

Note. $F_{(5, 31)} = 84.81$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 197 Observed Judgment Policy of School Building Leader Effectiveness

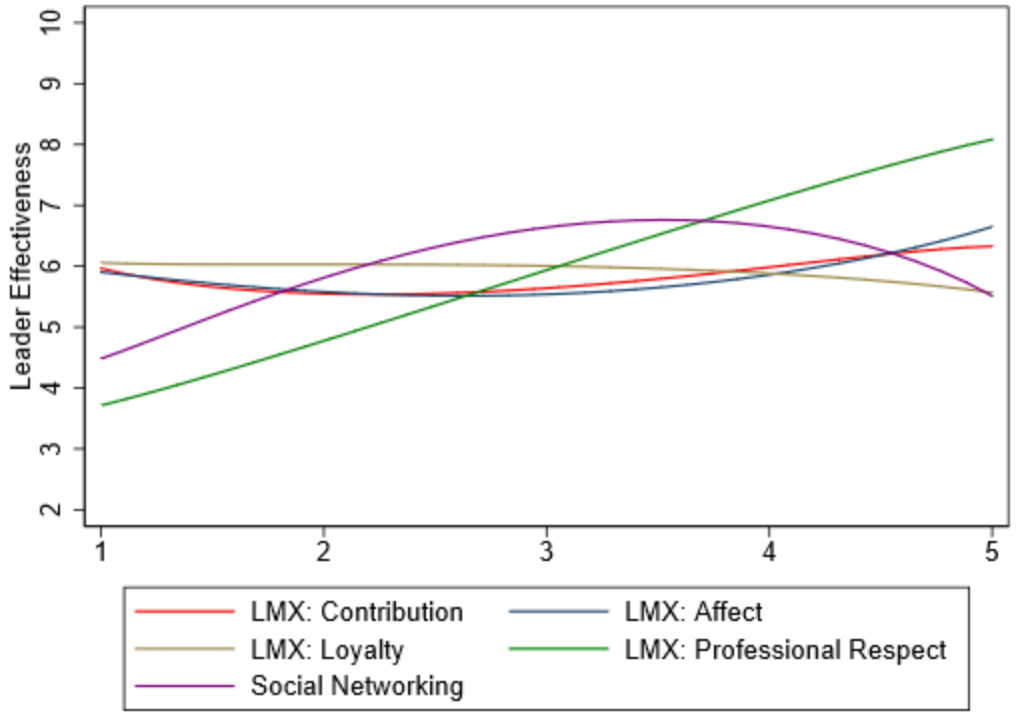


Figure A197.1. Judgment policy by leadership quality for Case 197 based on observed leader-effectiveness scores.

Case 197 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

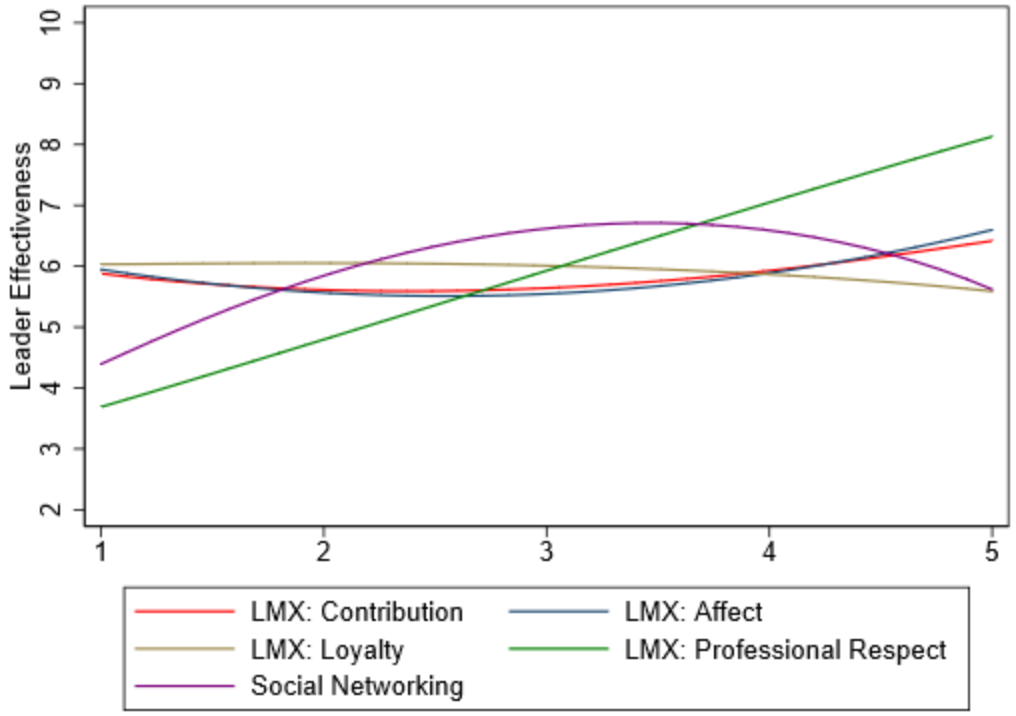


Figure A197.2. Judgment policy by leadership quality for Case 197 based on predicted leader-effectiveness scores from quadric regression.

Table A198.1

Case 198 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-1.28	1.20	-1.07	.296	-3.75	1.19
contribution2	0.23	0.20	1.17	.254	-0.18	0.65
loyal	-1.32	1.28	-1.03	.312	-3.96	1.31
loyal2	0.23	0.21	1.09	.287	-0.20	0.65
affect	1.82	1.19	1.53	.138	-0.63	4.26
affect2	-0.33	0.20	-1.63	.115	-0.74	0.09
respect	3.10	1.16	2.67	.013	0.71	5.48
respect2	-0.37	0.19	-1.93	.064	-0.77	0.02
network	0.79	1.24	0.63	.532	-1.77	3.34
network2	-0.10	0.20	-0.48	.638	-0.51	0.32

Note. $F_{(10, 26)} = 26.49$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .88$

Table A198.2

Case 198 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.21	0.24	0.87	.389	0.13
loyal	0.20	0.25	0.78	.444	0.11
affect	0.04	0.24	0.17	.865	0.02
respect	1.04	0.23	4.44	.000	0.62
network	0.36	0.26	1.39	.175	0.20

Note. $F_{(5, 31)} = 45.40$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 198 Observed Judgment Policy of School Building Leader Effectiveness

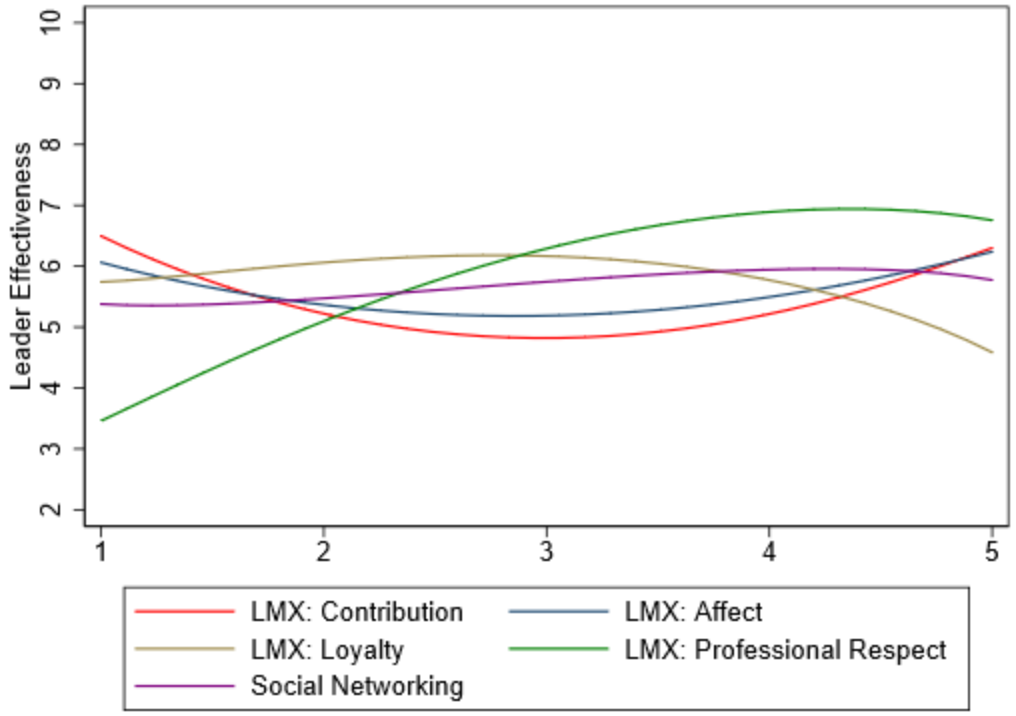


Figure A198.1. Judgment policy by leadership quality for Case 198 based on observed leader-effectiveness scores.

Case 198 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

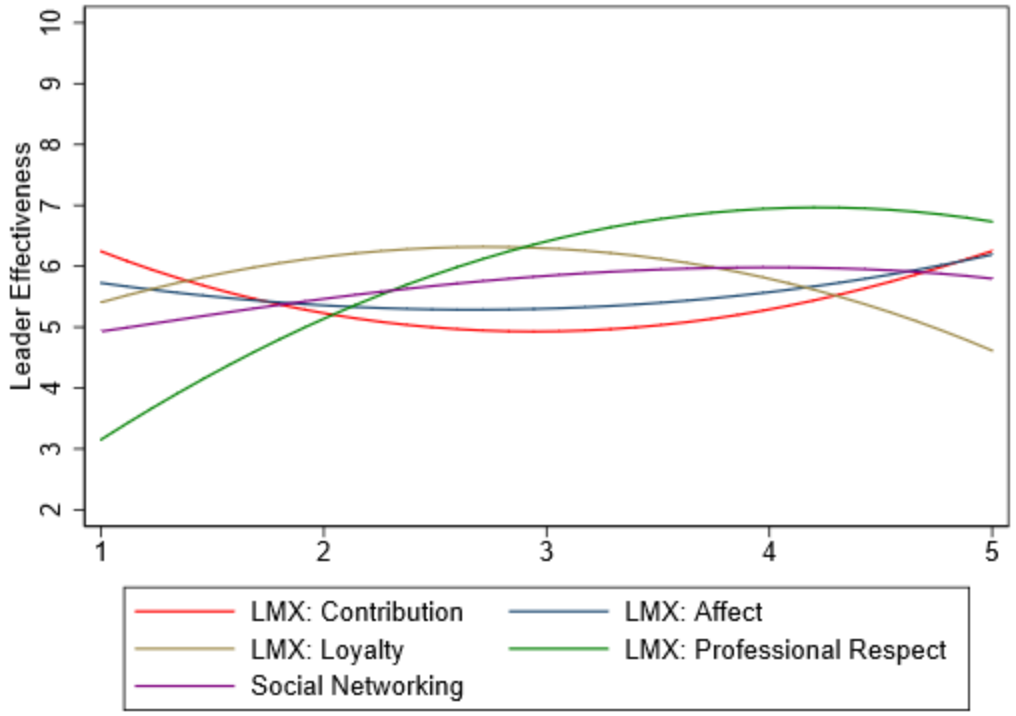


Figure A198.2. Judgment policy by leadership quality for Case 198 based on predicted leader-effectiveness scores from quadric regression.

Table A199.1

Case 199 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.51	0.75	0.68	.503	-1.03	2.05
contribution2	-0.09	0.13	-0.73	.470	-0.35	0.17
loyal	-1.70	0.80	-2.11	.044	-3.35	-0.05
loyal2	0.30	0.13	2.27	.032	0.03	0.56
affect	0.44	0.74	0.59	.559	-1.09	1.97
affect2	-0.07	0.13	-0.56	.581	-0.33	0.19
respect	1.06	0.73	1.46	.156	-0.43	2.55
respect2	-0.05	0.12	-0.38	.709	-0.29	0.20
network	1.73	0.78	2.23	.035	0.13	3.33
network2	-0.19	0.13	-1.47	.153	-0.45	0.07

Note. $F_{(10, 26)} = 55.27$ ($p < .001$), $R^2 = .96$, Adjusted $R^2 = .94$

Table A199.2

Case 199 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.01	0.14	0.10	.924	0.01
loyal	0.15	0.15	0.95	.349	0.11
affect	0.09	0.15	0.59	.558	0.07
respect	0.80	0.14	5.70	.000	0.62
network	0.64	0.16	4.09	.000	0.45

Note. $F_{(5, 31)} = 104.14$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .94$

Case 199 Observed Judgment Policy of School Building Leader Effectiveness

Note. $F(5, 31) = 104.14$ ($p < .001$), R2 = .944, Adjusted R2 = .935,

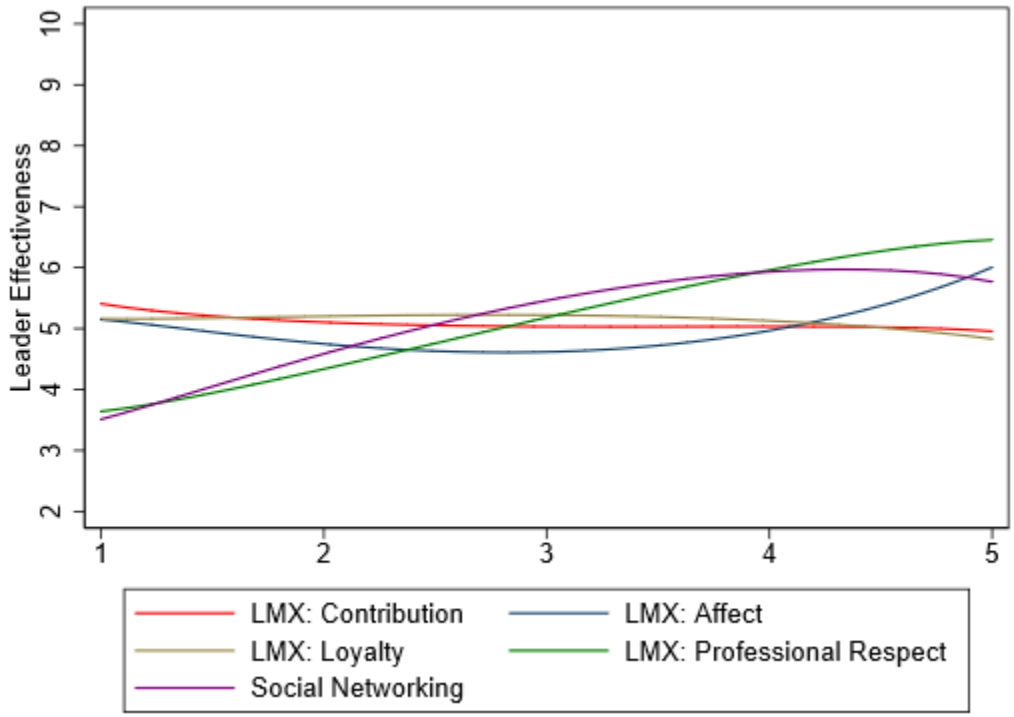


Figure A199.1. Judgment policy by leadership quality for Case 199 based on observed leader-effectiveness scores.

Case 199 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

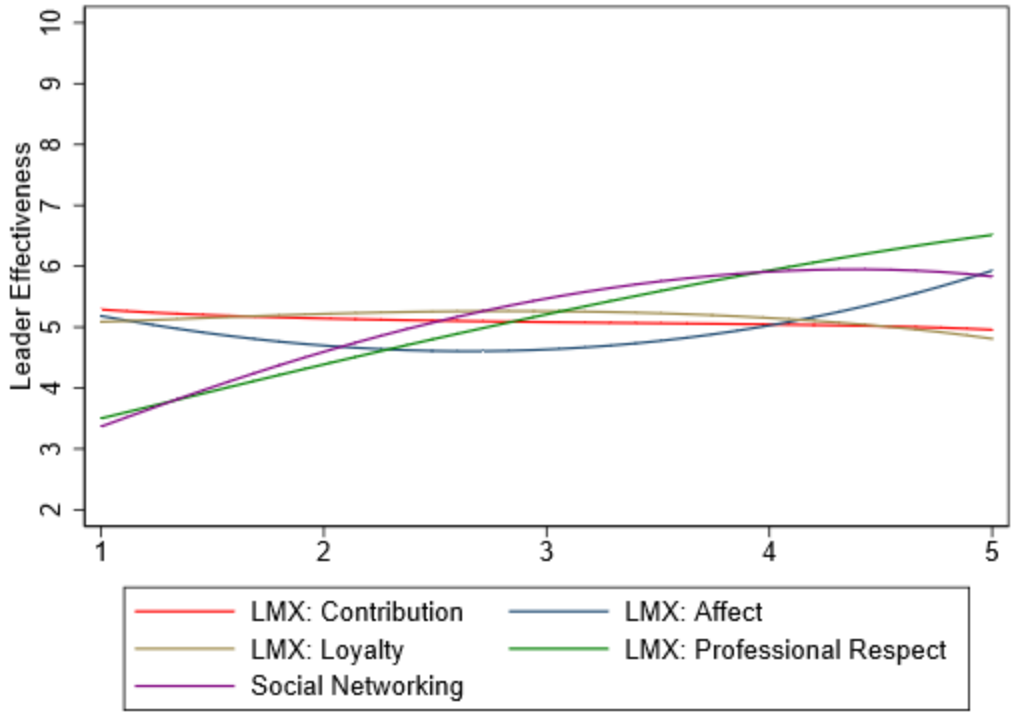


Figure A199.2. Judgment policy by leadership quality for Case 199 based on predicted leader-effectiveness scores from quadric regression.

Table A200.1

Case 200 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.80	1.26	-0.63	.532	-3.39	1.79
contribution2	0.18	0.21	0.84	.406	-0.26	0.61
loyal	-0.64	1.35	-0.47	.641	-3.41	2.13
loyal2	0.17	0.22	0.77	.448	-0.28	0.62
affect	0.18	1.25	0.14	.886	-2.39	2.75
affect2	-0.01	0.21	-0.04	.967	-0.44	0.42
respect	2.70	1.22	2.22	.036	0.19	5.20
respect2	-0.25	0.20	-1.25	.224	-0.67	0.16
network	-0.03	1.31	-0.02	.983	-2.71	2.66
network2	0.03	0.21	0.16	.877	-0.40	0.47

Note. $F_{(10, 26)} = 24.25$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .87$

Table A200.2

Case 200 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.20	0.23	0.88	.387	0.11
loyal	0.36	0.24	1.47	.153	0.18
affect	0.08	0.23	0.33	.743	0.04
respect	1.11	0.22	4.99	.000	0.59
network	0.12	0.25	0.47	.640	0.06

Note. $F_{(5, 31)} = 51.12$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 200 Observed Judgment Policy of School Building Leader Effectiveness

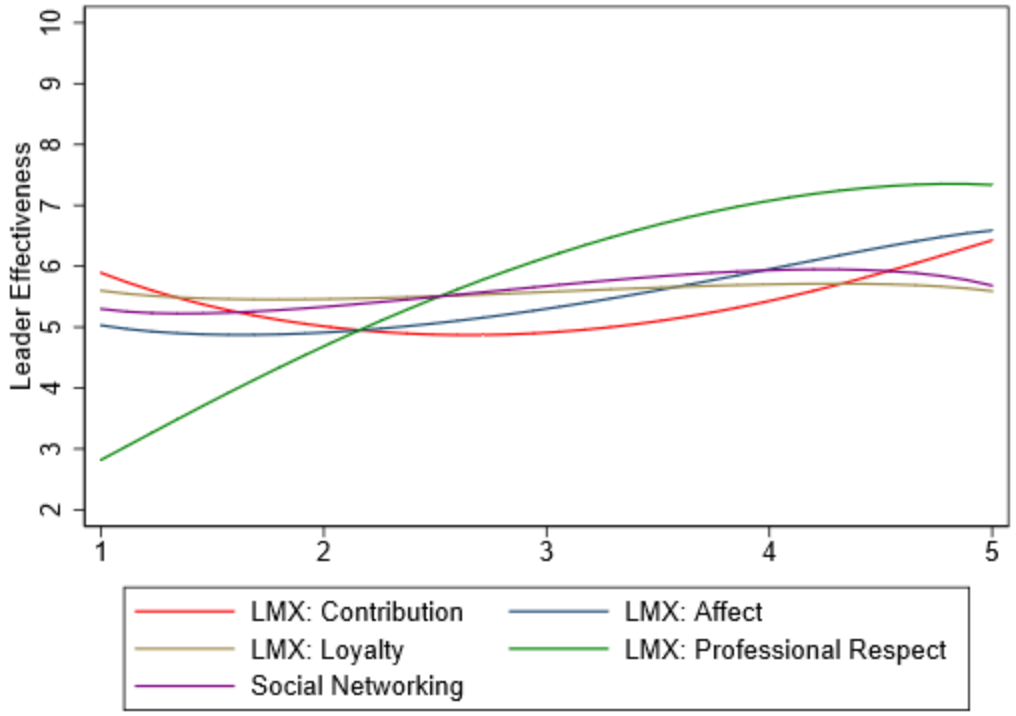


Figure A200.1. Judgment policy by leadership quality for Case 200 based on observed leader-effectiveness scores.

Case 200 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

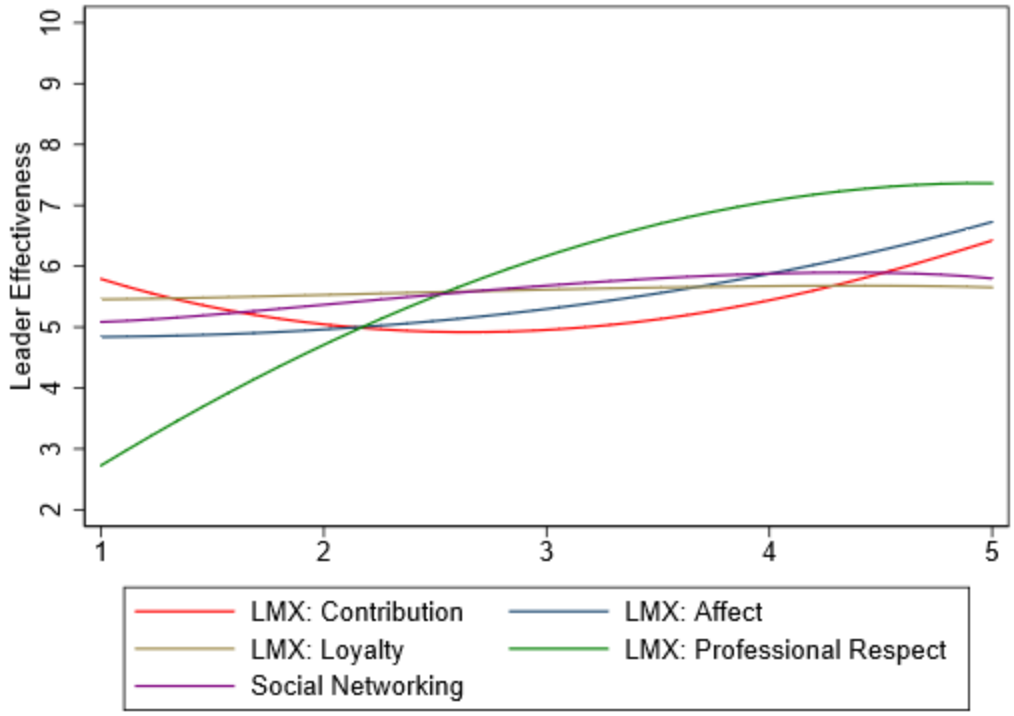


Figure A200.2. Judgment policy by leadership quality for Case 200 based on predicted leader-effectiveness scores from quadric regression.

Table A201.1

Case 201 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.31	0.74	-0.43	.672	-1.83	1.20
contribution2	0.08	0.12	0.63	.536	-0.18	0.33
loyal	-0.47	0.79	-0.60	.556	-2.08	1.15
loyal2	0.10	0.13	0.78	.442	-0.16	0.36
affect	0.73	0.73	1.00	.326	-0.77	2.23
affect2	-0.12	0.12	-0.95	.350	-0.37	0.14
respect	1.35	0.71	1.90	.068	-0.11	2.81
respect2	-0.14	0.12	-1.15	.259	-0.38	0.11
network	2.06	0.76	2.70	.012	0.49	3.62
network2	-0.19	0.12	-1.57	.128	-0.45	0.06

Note. $F_{(10, 26)} = 108.83$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A201.2

Case 201 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.26	0.14	1.80	.081	0.21
loyal	0.25	0.15	1.67	.105	0.20
affect	0.16	0.14	1.13	.268	0.13
respect	0.68	0.14	4.90	.000	0.54
network	0.99	0.15	6.42	.000	0.72

Note. $F_{(5, 31)} = 202.15$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .97$

Case 201 Observed Judgment Policy of School Building Leader Effectiveness

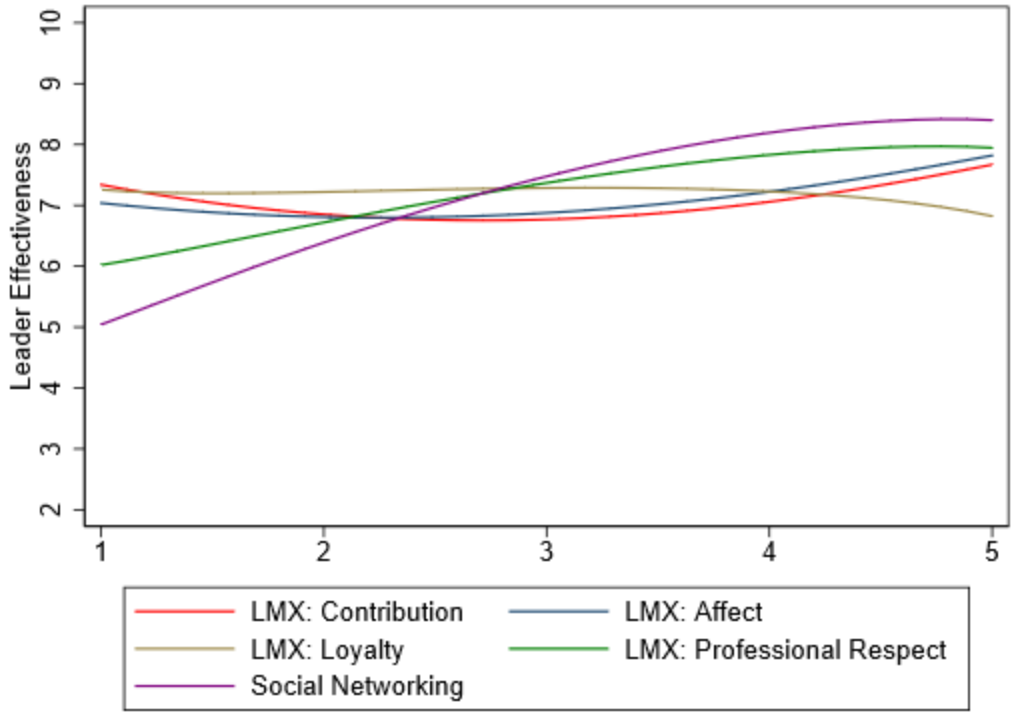


Figure A201.1. Judgment policy by leadership quality for Case 3 based on observed leader-effectiveness scores.

Case 201 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

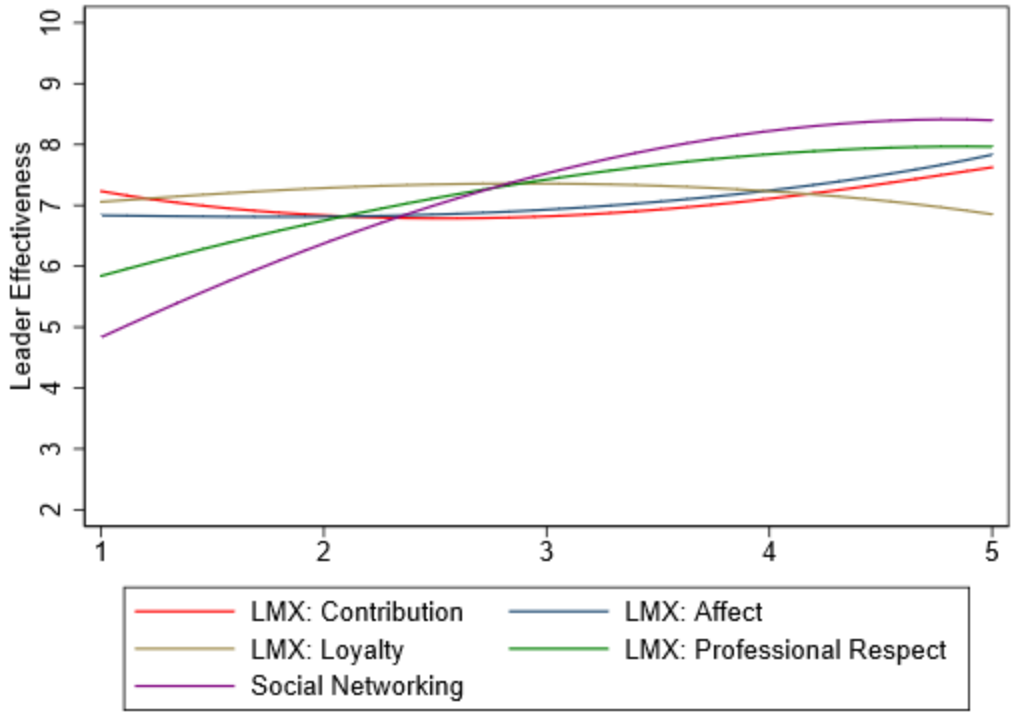


Figure A201.2. Judgment policy by leadership quality for Case 201 based on predicted leader-effectiveness scores from quadric regression.

Table A202.1

Case 202 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.23	0.96	-0.24	.815	-2.19	1.74
contribution2	0.10	0.16	0.61	.544	-0.23	0.43
loyal	-1.44	1.02	-1.41	.171	-3.54	0.66
loyal2	0.26	0.17	1.55	.134	-0.08	0.60
affect	0.46	0.95	0.48	.632	-1.49	2.41
affect2	-0.09	0.16	-0.56	.577	-0.42	0.24
respect	1.02	0.92	1.10	.280	-0.88	2.92
respect2	-0.06	0.15	-0.37	.716	-0.37	0.26
network	2.90	0.99	2.92	.007	0.86	4.93
network2	-0.42	0.16	-2.63	.014	-0.75	-0.09

Note. $F_{(10, 26)} = 44.59$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .92$

Table A202.2

Case 202 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.48	0.19	2.54	.016	0.33
loyal	0.23	0.20	1.12	.272	0.15
affect	0.03	0.19	0.14	.893	0.02
respect	0.80	0.19	4.31	.000	0.55
network	0.40	0.21	1.94	.061	0.25

Note. $F_{(5, 31)} = 77.59$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Case 202 Observed Judgment Policy of School Building Leader Effectiveness

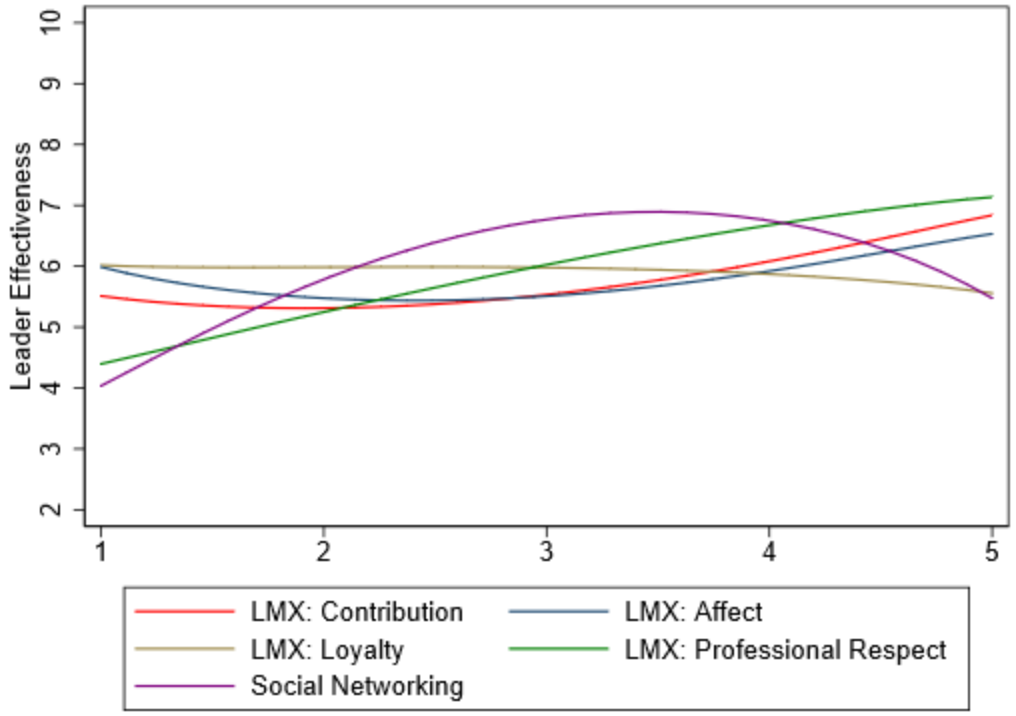


Figure A202.1. Judgment policy by leadership quality for Case 202 based on observed leader-effectiveness scores.

Case 202 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

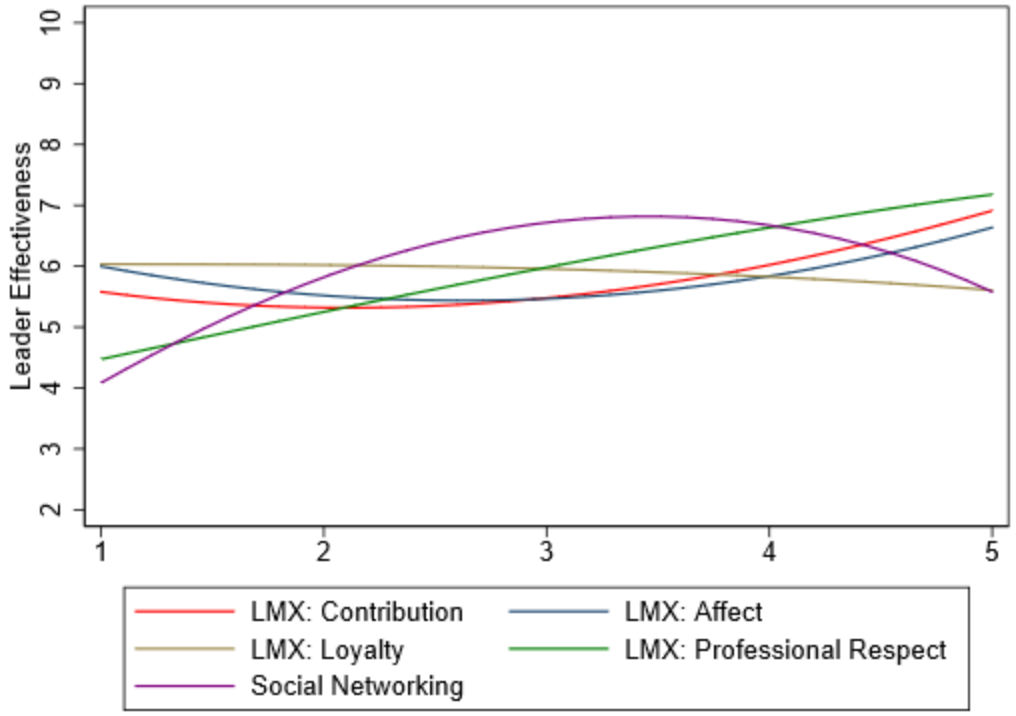


Figure A202.2. Judgment policy by leadership quality for Case 202 based on predicted leader-effectiveness scores from quadric regression.

Table A203.1

Case 203 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.47	0.88	-0.53	.598	-2.27	1.33
contribution2	0.09	0.15	0.63	.534	-0.21	0.39
loyal	-1.40	0.94	-1.50	.146	-3.33	0.52
loyal2	0.23	0.15	1.52	.141	-0.08	0.54
affect	0.71	0.87	0.82	.420	-1.07	2.50
affect2	-0.11	0.15	-0.79	.439	-0.41	0.19
respect	1.58	0.85	1.87	.073	-0.16	3.32
respect2	-0.20	0.14	-1.40	.174	-0.48	0.09
network	3.25	0.91	3.58	.001	1.38	5.11
network2	-0.49	0.15	-3.34	.003	-0.80	-0.19

Note. $F_{(10, 26)} = 50.68$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A203.2

Case 203 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.31	0.20	1.57	.126	0.27
loyal	0.22	0.21	1.02	.315	0.18
affect	0.26	0.20	1.28	.211	0.23
respect	0.66	0.19	3.44	.002	0.58
network	0.45	0.21	2.11	.043	0.36

Note. $F_{(5, 31)} = 67.43$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 203 Observed Judgment Policy of School Building Leader Effectiveness

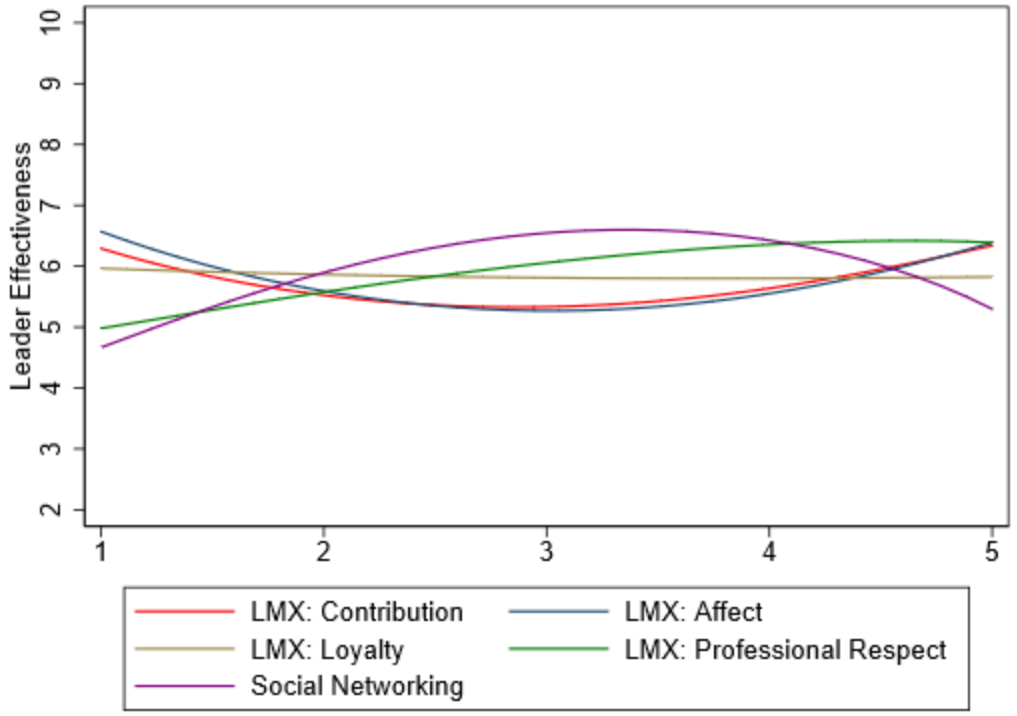


Figure A203.1. Judgment policy by leadership quality for Case 203 based on observed leader-effectiveness scores.

Case 203 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

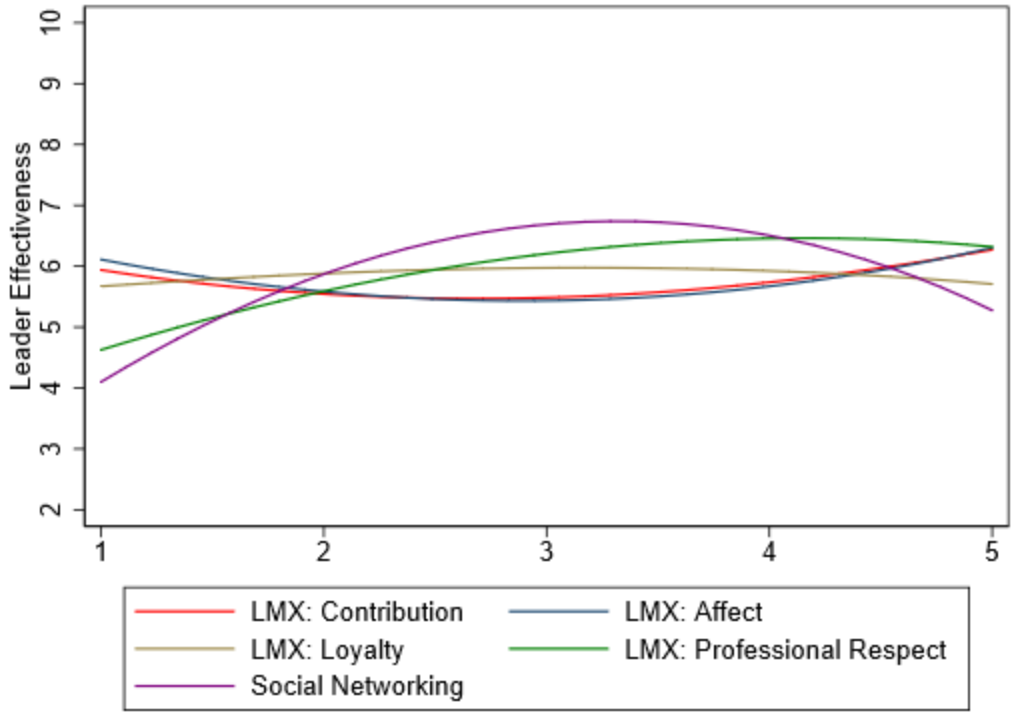


Figure A203.2. Judgment policy by leadership quality for Case 203 based on predicted leader-effectiveness scores from quadric regression.

Table A204.1

Case 204 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.88	0.55	1.58	.125	-0.26	2.01
contribution2	-0.11	0.09	-1.22	.235	-0.30	0.08
loyal	0.95	0.59	1.60	.122	-0.27	2.16
loyal2	-0.16	0.10	-1.62	.117	-0.35	0.04
affect	1.79	0.55	3.26	.003	0.66	2.92
affect2	-0.29	0.09	-3.17	.004	-0.48	-0.10
respect	0.51	0.53	0.95	.348	-0.59	1.61
respect2	-0.04	0.09	-0.43	.674	-0.22	0.14
network	1.49	0.57	2.60	.015	0.31	2.67
network2	-0.16	0.09	-1.73	.095	-0.35	0.03

Note. $F_{(10, 26)} = 262.96$ ($p < .001$), $R^2 = .99$, Adjusted $R^2 = .99$

Table A204.2

Case 204 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.49	0.17	2.86	.008	0.94
loyal	0.29	0.18	1.57	.126	0.53
affect	0.40	0.17	2.30	.028	0.77
respect	0.70	0.17	4.14	.000	1.33
network	0.87	0.19	4.62	.000	1.50

Note. $F_{(5, 31)} = 184.95$ ($p < .001$), $R^2 = .97$, Adjusted $R^2 = .96$

Case 204 Observed Judgment Policy of School Building Leader Effectiveness

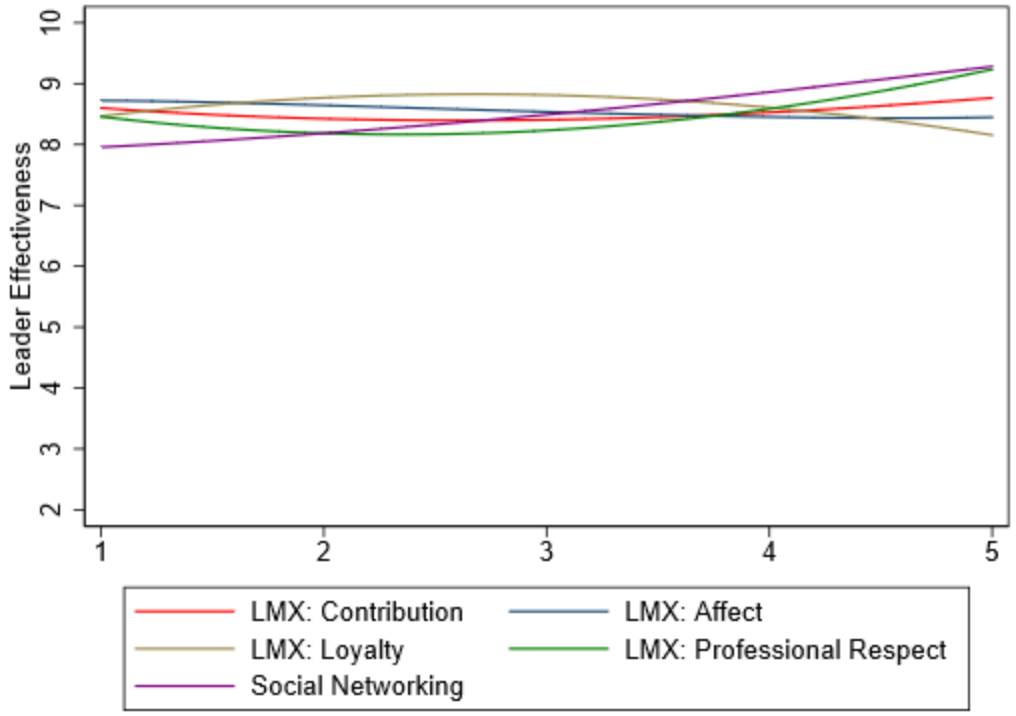


Figure A204.1. Judgment policy by leadership quality for Case 204 based on observed leader-effectiveness scores.

Case 204 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

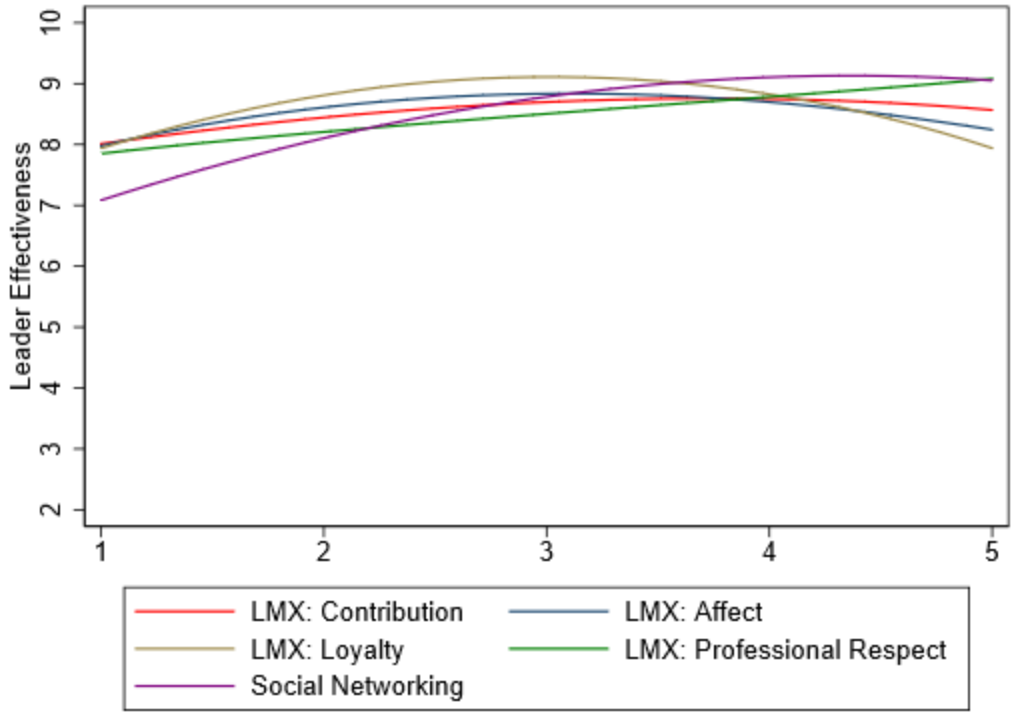


Figure A204.2. Judgment policy by leadership quality for Case 204 based on predicted leader-effectiveness scores from quadric regression.

Table A205.1

Case 205 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.06	1.30	0.81	.424	-1.62	3.74
contribution2	-0.15	0.22	-0.67	.511	-0.59	0.30
loyal	-2.38	1.39	-1.70	.100	-5.24	0.49
loyal2	0.47	0.23	2.08	.047	0.01	0.94
affect	0.99	1.29	0.77	.451	-1.67	3.65
affect2	-0.19	0.22	-0.86	.400	-0.63	0.26
respect	0.87	1.26	0.69	.496	-1.72	3.46
respect2	0.05	0.21	0.23	.824	-0.38	0.48
network	1.33	1.35	0.98	.336	-1.45	4.10
network2	-0.17	0.22	-0.78	.441	-0.62	0.28

Note. $F_{(10, 26)} = 24.71$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A205.2

Case 205 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.19	0.24	0.79	.437	0.10
loyal	0.48	0.26	1.84	.076	0.23
affect	-0.10	0.25	-0.39	.697	-0.05
respect	1.09	0.24	4.57	.000	0.54
network	0.27	0.26	1.02	.315	0.12

Note. $F_{(5, 31)} = 48.88$ ($p < .001$), $R^2 = .89$, Adjusted $R^2 = .87$

Case 205 Observed Judgment Policy of School Building Leader Effectiveness

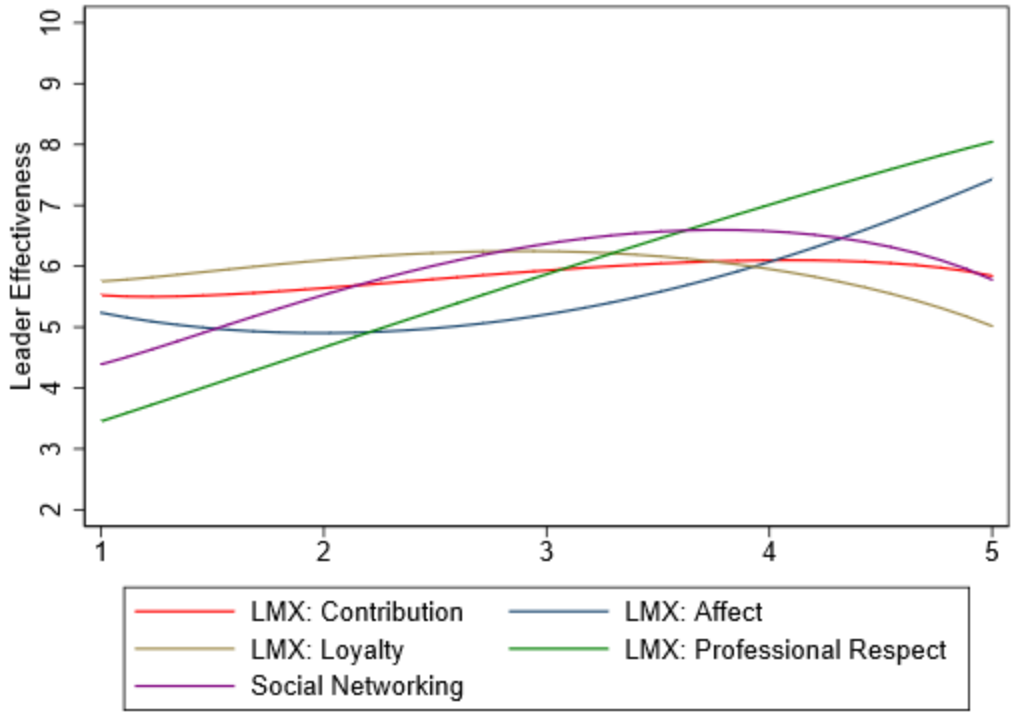


Figure A205.1. Judgment policy by leadership quality for Case 205 based on observed leader-effectiveness scores.

Case 205 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

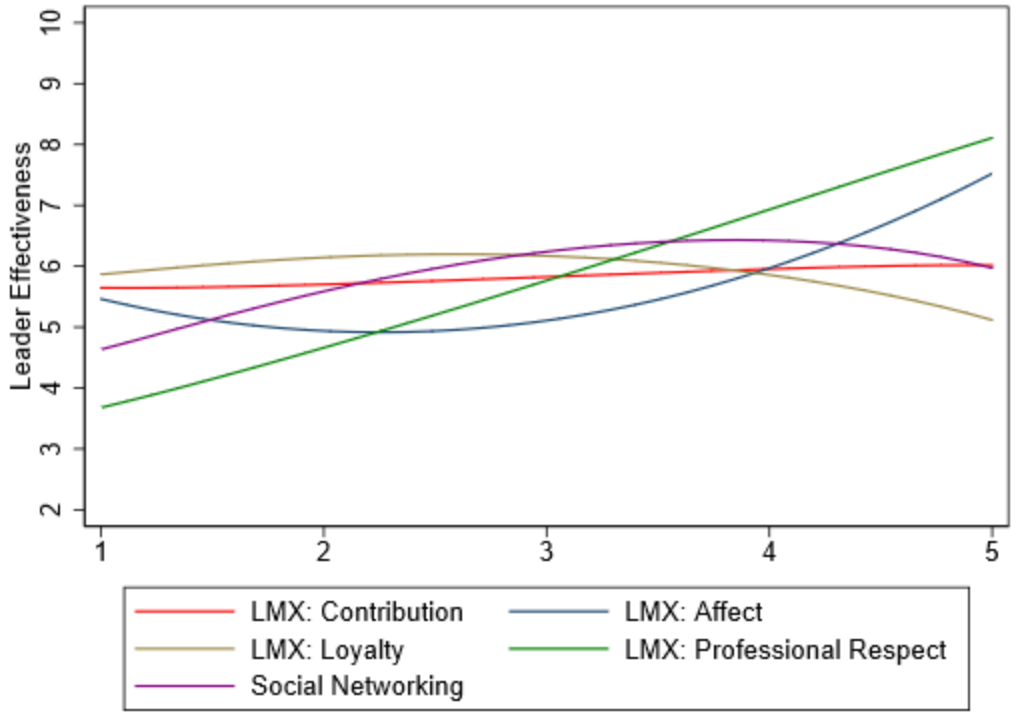


Figure A205.2. Judgment policy by leadership quality for Case 205 based on predicted leader-effectiveness scores from quadric regression.

Table A206.1

Case 106 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	-0.29	1.10	-0.26	.795	-2.56	1.98
contribution2	0.05	0.18	0.29	.774	-0.33	0.43
loyal	-1.09	1.18	-0.93	.362	-3.52	1.33
loyal2	0.27	0.19	1.41	.170	-0.12	0.66
affect	1.22	1.09	1.12	.274	-1.03	3.47
affect2	-0.20	0.18	-1.11	.278	-0.58	0.17
respect	2.04	1.07	1.91	.067	-0.15	4.23
respect2	-0.27	0.18	-1.54	.135	-0.63	0.09
network	1.41	1.14	1.23	.228	-0.94	3.76
network2	-0.19	0.19	-1.02	.317	-0.57	0.19

Note. $F_{(10, 26)} = 35.79$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .91$

Table A206.2

Case 206 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.15	0.21	0.72	.476	0.11
loyal	0.70	0.23	3.07	.004	0.47
affect	0.18	0.22	0.83	.411	0.12
respect	0.56	0.21	2.68	.012	0.39
network	0.41	0.23	1.78	.085	0.26

Note. $F_{(5, 31)} = 65.89$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .90$

Case 206 Observed Judgment Policy of School Building Leader Effectiveness

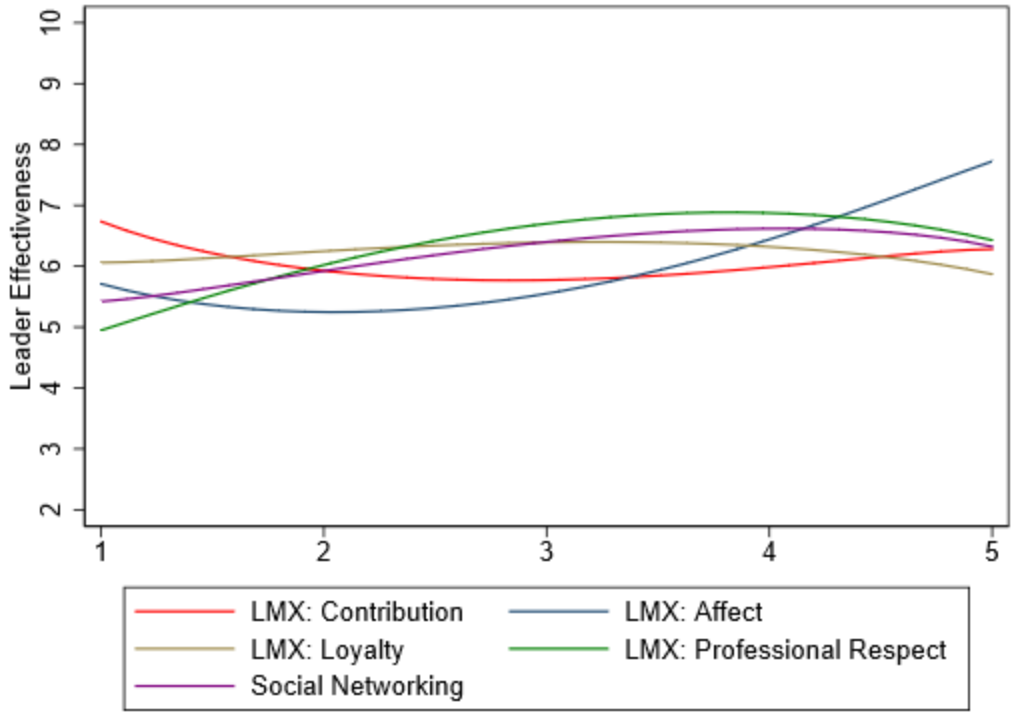


Figure A206.1. Judgment policy by leadership quality for Case 206 based on observed leader-effectiveness scores.

Case 206 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

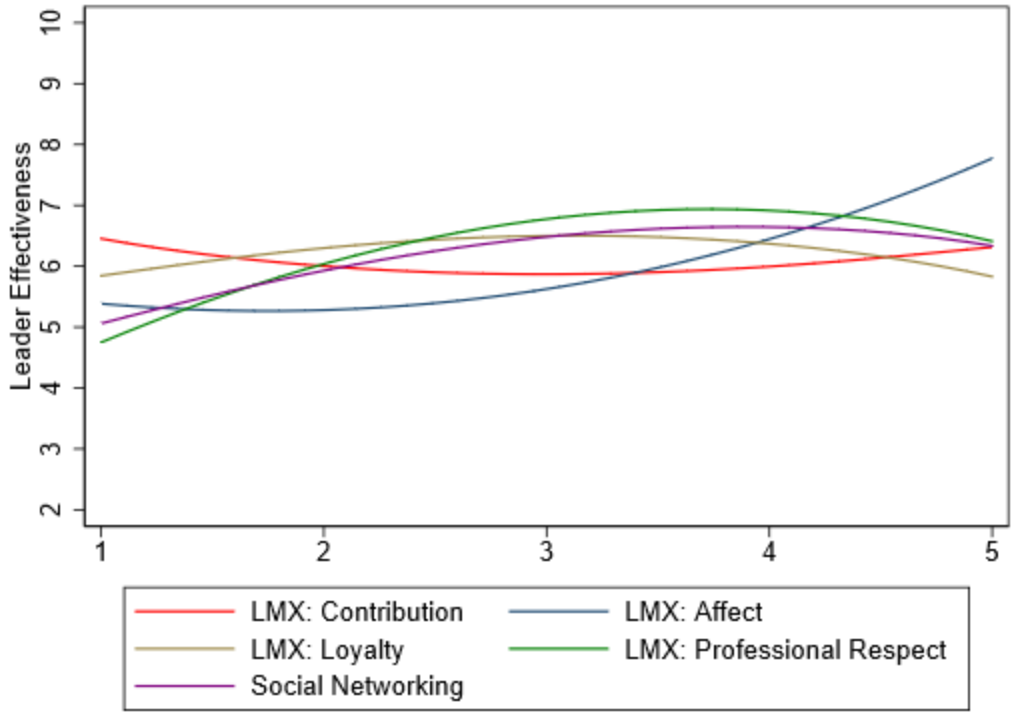


Figure A206.2. Judgment policy by leadership quality for Case 206 based on predicted leader-effectiveness scores from quadric regression.

Table A207.1

Case 207 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.92	1.18	1.62	.116	-0.51	4.34
contribution2	-0.34	0.20	-1.71	.099	-0.74	0.07
loyal	1.39	1.26	1.10	.282	-1.21	3.98
loyal2	-0.21	0.20	-1.01	.323	-0.63	0.21
affect	0.88	1.17	0.75	.459	-1.52	3.28
affect2	-0.11	0.20	-0.56	.577	-0.52	0.29
respect	2.24	1.14	1.97	.060	-0.10	4.58
respect2	-0.35	0.19	-1.85	.076	-0.74	0.04
network	-0.09	1.22	-0.07	.944	-2.60	2.42
network2	-0.01	0.20	-0.07	.945	-0.42	0.39

Note. $F_{(10, 26)} = 47.95$ ($p < .001$), $R^2 = .95$, Adjusted $R^2 = .93$

Table A207.2

Case 207 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.28	0.28	1.02	.317	0.24
loyal	0.54	0.30	1.79	.083	0.44
affect	0.71	0.28	2.49	.018	0.60
respect	0.64	0.27	2.35	.026	0.54
network	0.31	0.30	1.03	.313	0.24

Note. $F_{(5, 31)} = 56.72$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .89$

Case 207 Observed Judgment Policy of School Building Leader Effectiveness

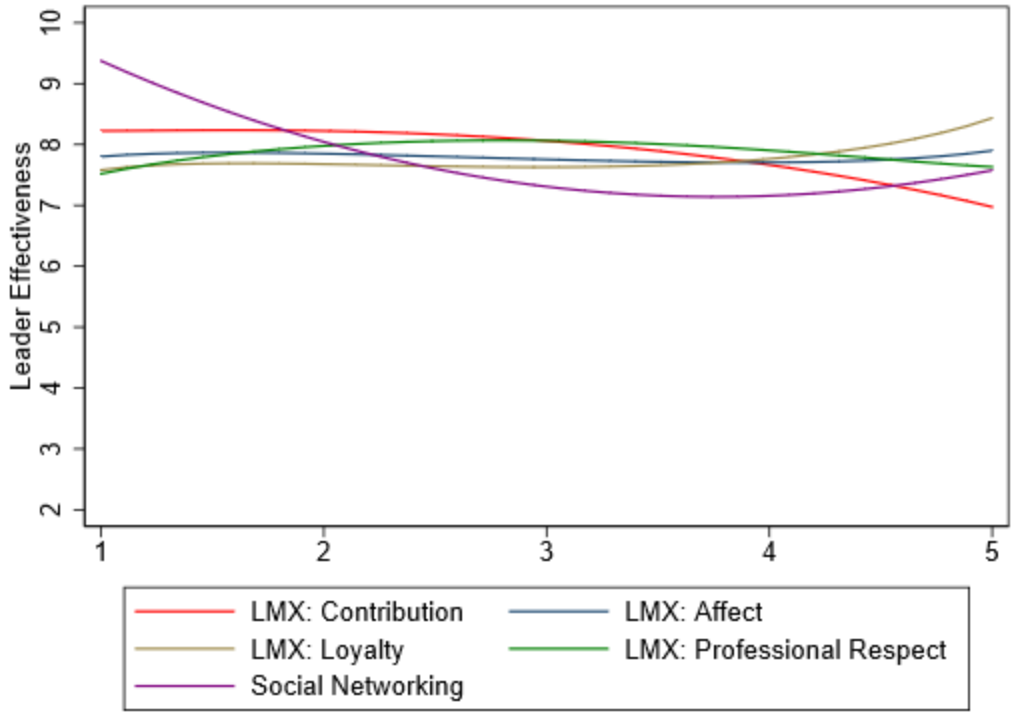


Figure A207.1. Judgment policy by leadership quality for Case 207 based on observed leader-effectiveness scores.

Case 207 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

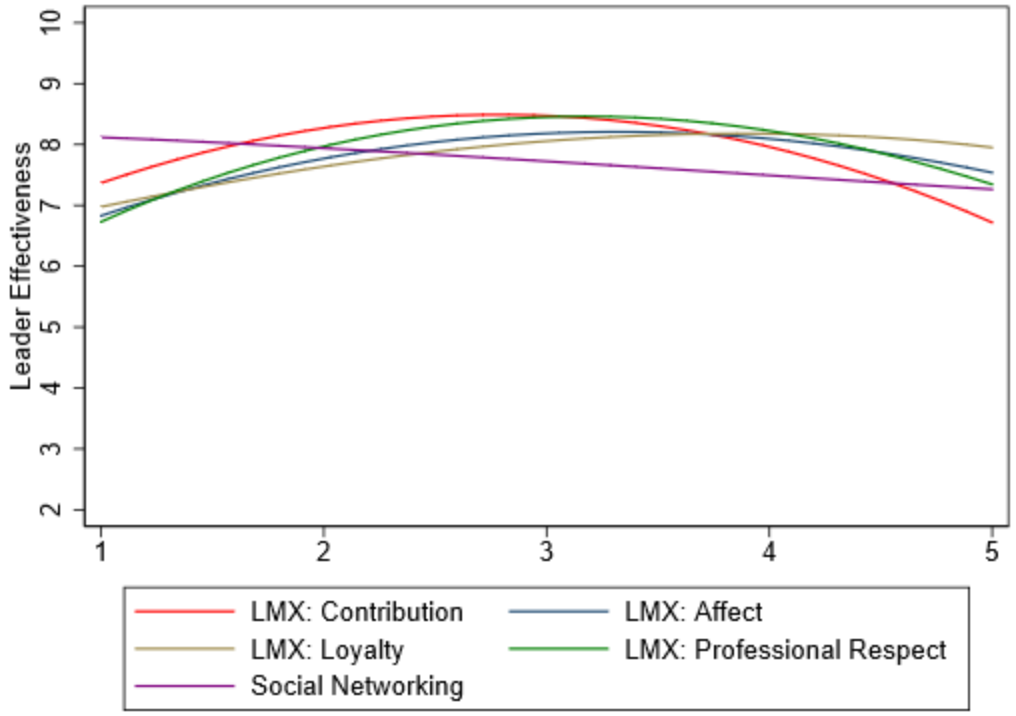


Figure A207.2. Judgment policy by leadership quality for Case 3 based on predicted leader-effectiveness scores from quadric regression.

Table A208.1

Case 208 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.25	1.04	0.24	.815	-1.89	2.39
contribution2	-0.01	0.17	-0.07	.947	-0.37	0.35
loyal	-1.47	1.11	-1.32	.197	-3.76	0.82
loyal2	0.28	0.18	1.53	.137	-0.09	0.65
affect	1.59	1.03	1.54	.135	-0.53	3.71
affect2	-0.22	0.17	-1.25	.223	-0.57	0.14
respect	0.67	1.00	0.67	.509	-1.39	2.74
respect2	0.05	0.17	0.28	.779	-0.29	0.39
network	1.48	1.08	1.37	.183	-0.74	3.69
network2	-0.24	0.18	-1.35	.188	-0.60	0.12

Note. $F_{(10, 26)} = 39.43$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .91$

Table A208.2

Case 208 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.24	0.19	1.24	.224	0.16
loyal	0.27	0.21	1.29	.208	0.17
affect	0.38	0.20	1.93	.062	0.25
respect	1.02	0.19	5.37	.000	0.66
network	0.10	0.21	0.45	.654	0.06

Note. $F_{(5, 31)} = 78.78$ ($p < .001$), $R^2 = .93$, Adjusted $R^2 = .92$

Case 208 Observed Judgment Policy of School Building Leader Effectiveness

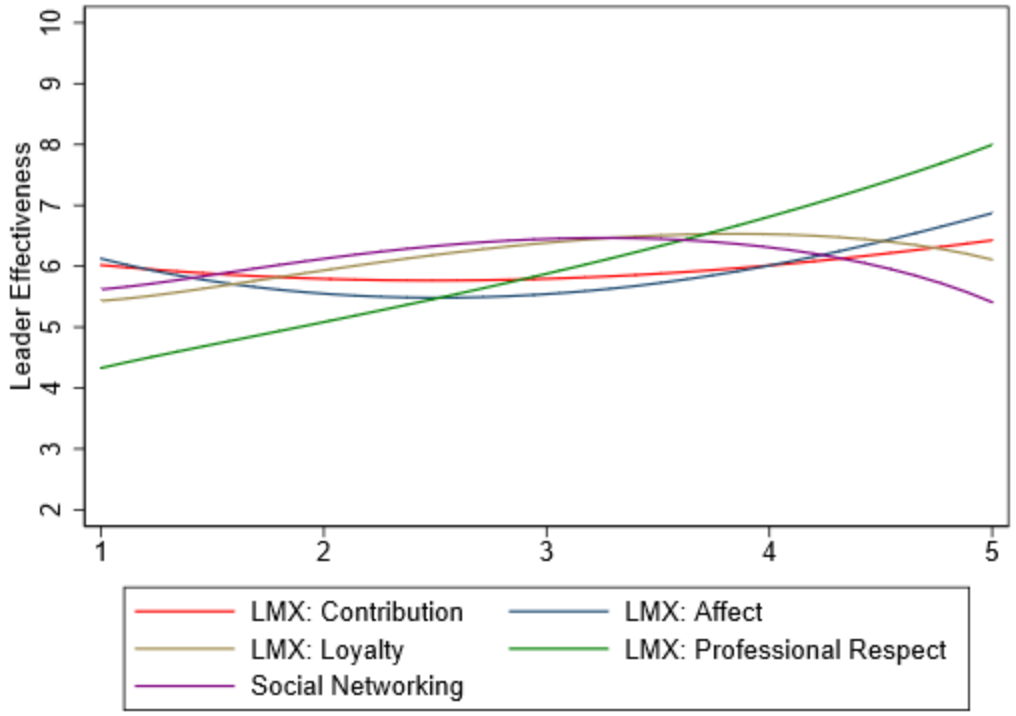


Figure A208.1. Judgment policy by leadership quality for Case 208 based on observed leader-effectiveness scores.

Case 208 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

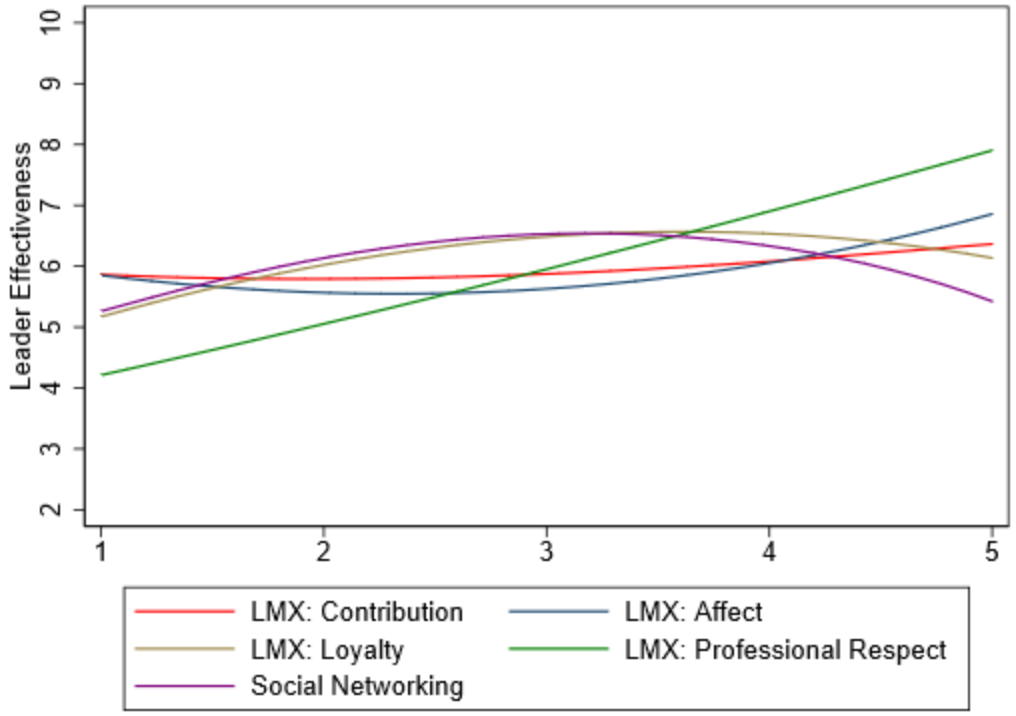


Figure A208.2. Judgment policy by leadership quality for Case 208 based on predicted leader-effectiveness scores from quadric regression.

Table A209.1

Case 209 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.43	1.55	0.28	.784	-2.75	3.61
contribution2	-0.14	0.26	-0.53	.602	-0.67	0.39
loyal	-1.08	1.65	-0.66	.517	-4.48	2.31
loyal2	0.29	0.27	1.09	.284	-0.26	0.84
affect	0.52	1.53	0.34	.736	-2.63	3.67
affect2	-0.06	0.26	-0.25	.805	-0.59	0.47
respect	1.22	1.49	0.82	.420	-1.85	4.29
respect2	-0.09	0.25	-0.38	.706	-0.60	0.41
network	2.11	1.60	1.32	.200	-1.18	5.40
network2	-0.23	0.26	-0.89	.380	-0.77	0.30

Note. $F_{(10, 26)} = 24.75$ ($p < .001$), $R^2 = .91$, Adjusted $R^2 = .87$

Table A209.2

Case 209 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	-0.28	0.28	-1.00	.326	-0.14
loyal	0.80	0.29	2.72	.011	0.38
affect	0.27	0.28	0.95	.349	0.13
respect	0.74	0.27	2.73	.010	0.36
network	0.79	0.30	2.64	.013	0.36

Note. $F_{(5, 31)} = 53.79$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .88$

Case 209 Observed Judgment Policy of School Building Leader Effectiveness

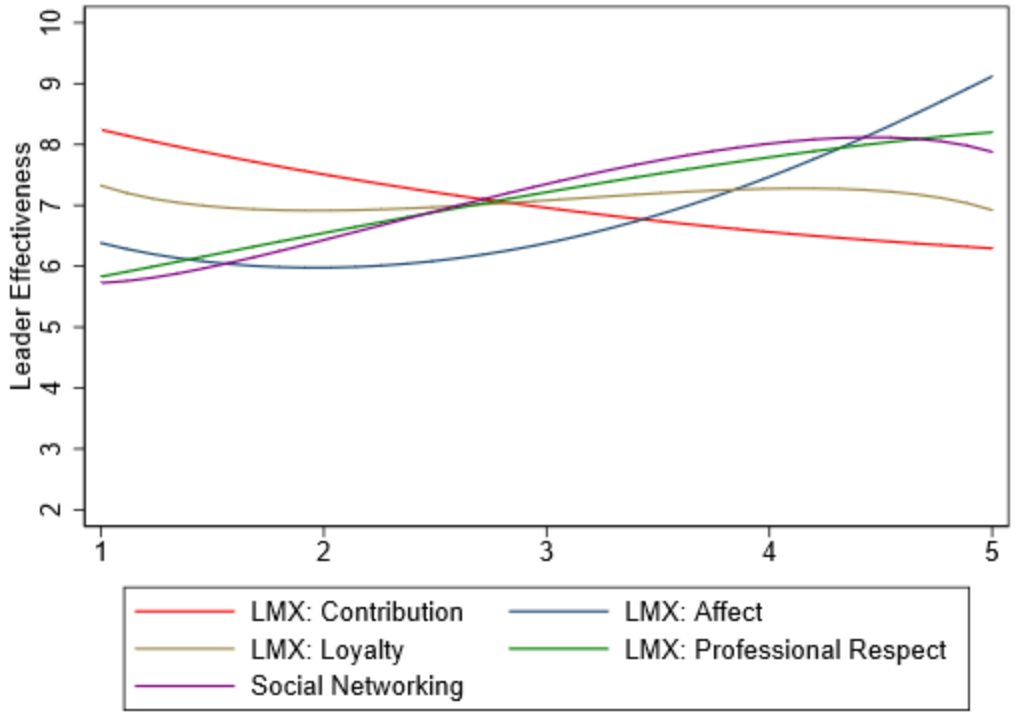


Figure A209.1. Judgment policy by leadership quality for Case 209 based on observed leader-effectiveness scores.

Case 209 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

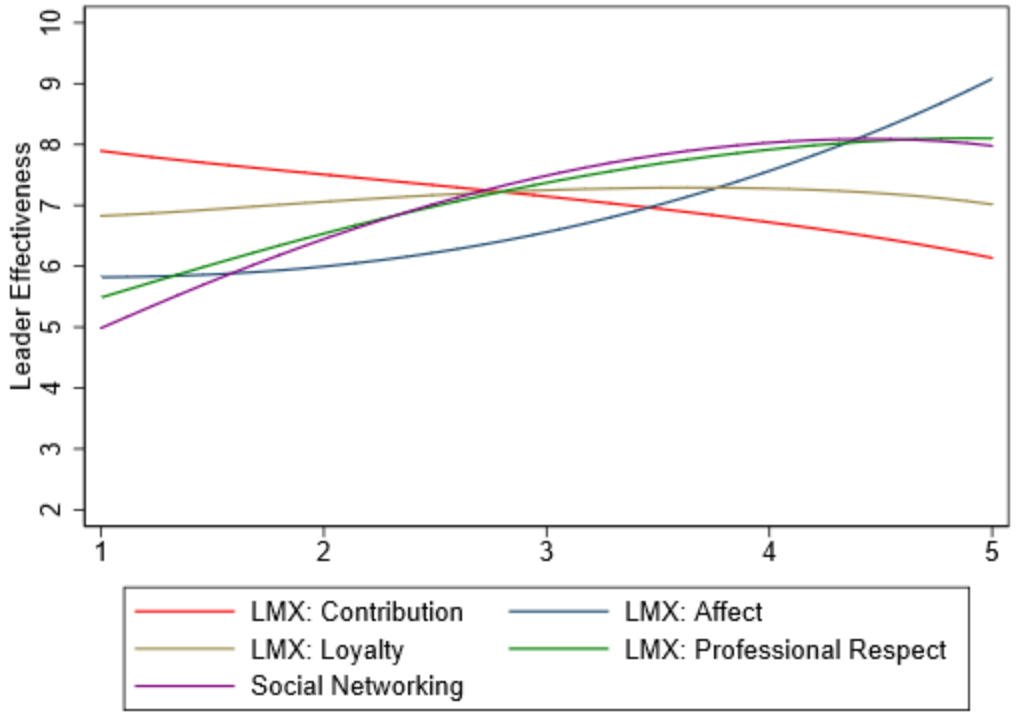


Figure A209.2. Judgment policy by leadership quality for Case 209 based on predicted leader-effectiveness scores from quadric regression.

Table A210.1

Case 210 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.37	1.46	0.94	.358	-1.64	4.38
contribution2	-0.20	0.24	-0.80	.431	-0.70	0.31
loyal	-1.87	1.56	-1.19	.243	-5.08	1.35
loyal2	0.39	0.25	1.53	.137	-0.13	0.91
affect	1.85	1.45	1.27	.214	-1.13	4.83
affect2	-0.32	0.24	-1.31	.202	-0.82	0.18
respect	0.82	1.41	0.58	.566	-2.08	3.72
respect2	-0.06	0.23	-0.24	.813	-0.54	0.42
network	1.51	1.52	1.00	.328	-1.60	4.63
network2	-0.23	0.25	-0.95	.350	-0.74	0.27

Note. $F_{(10, 26)} = 22.74$ ($p < .001$), $R^2 = .90$, Adjusted $R^2 = .86$

Table A210.2

Case 210 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.36	0.28	1.31	.200	0.21
loyal	0.66	0.30	2.22	.034	0.37
affect	0.17	0.28	0.61	.548	0.10
respect	0.65	0.27	2.40	.023	0.38
network	0.28	0.30	0.92	.363	0.15

Note. $F_{(5, 31)} = 43.37$ ($p < .001$), $R^2 = .88$, Adjusted $R^2 = .86$

Case 210 Observed Judgment Policy of School Building Leader Effectiveness

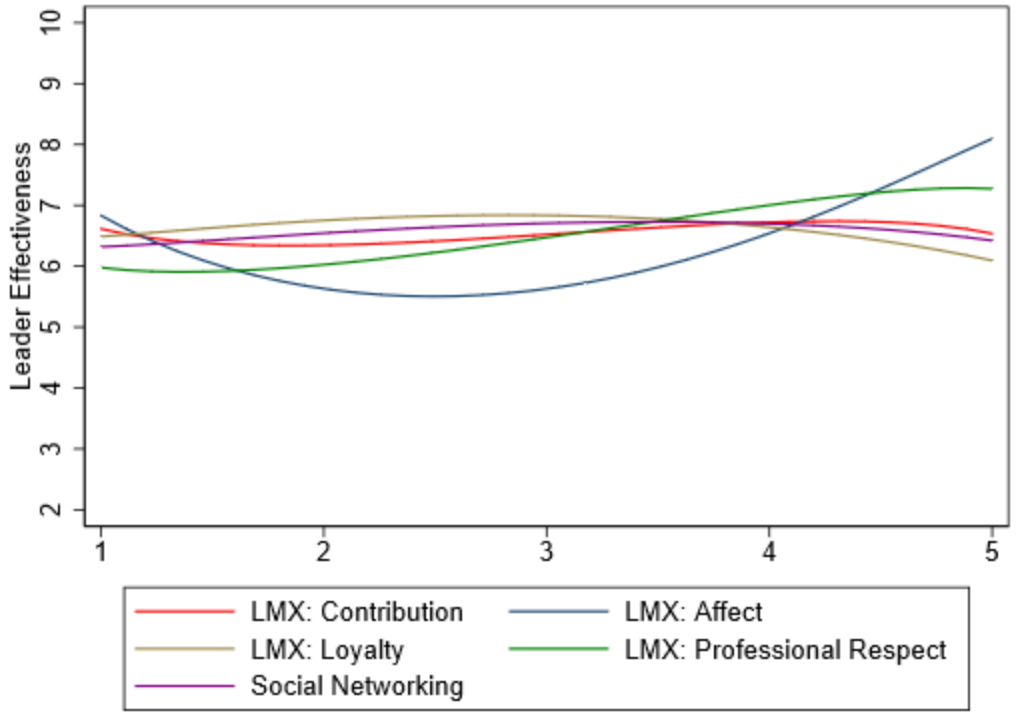


Figure A210.1. Judgment policy by leadership quality for Case 210 based on observed leader-effectiveness scores.

Case 201 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

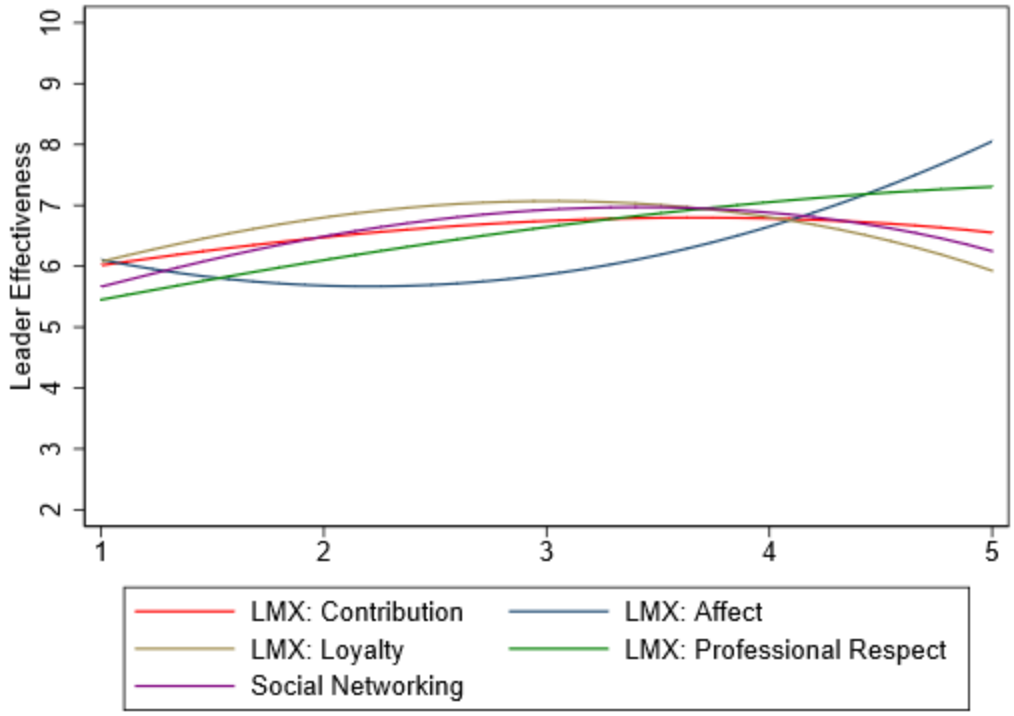


Figure A210.2. Judgment policy by leadership quality for Case 210 based on predicted leader-effectiveness scores from quadric regression.

Table A211.1

Case 211 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	1.12	0.61	1.84	.078	-0.13	2.37
contribution2	-0.16	0.10	-1.59	.123	-0.37	0.05
loyal	0.33	0.65	0.51	.617	-1.01	1.67
loyal2	-0.05	0.11	-0.49	.625	-0.27	0.16
affect	2.13	0.60	3.52	.002	0.88	3.37
affect2	-0.34	0.10	-3.38	.002	-0.55	-0.13
respect	1.14	0.59	1.93	.064	-0.07	2.35
respect2	-0.18	0.10	-1.82	.080	-0.38	0.02
network	-0.03	0.63	-0.05	.959	-1.33	1.26
network2	0.02	0.10	0.18	.855	-0.19	0.23

Note. $F_{(10, 26)} = 111.02$ ($p < .001$), $R^2 = .98$, Adjusted $R^2 = .97$

Table A211.2

Case 211 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.39	0.17	2.25	.032	0.76
loyal	0.28	0.19	1.51	.141	0.52
affect	0.43	0.18	2.42	.022	0.83
respect	0.43	0.17	2.51	.018	0.83
network	0.43	0.19	2.28	.030	0.76

Note. $F_{(5, 31)} = 91.18$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .93$

Case 211 Observed Judgment Policy of School Building Leader Effectiveness

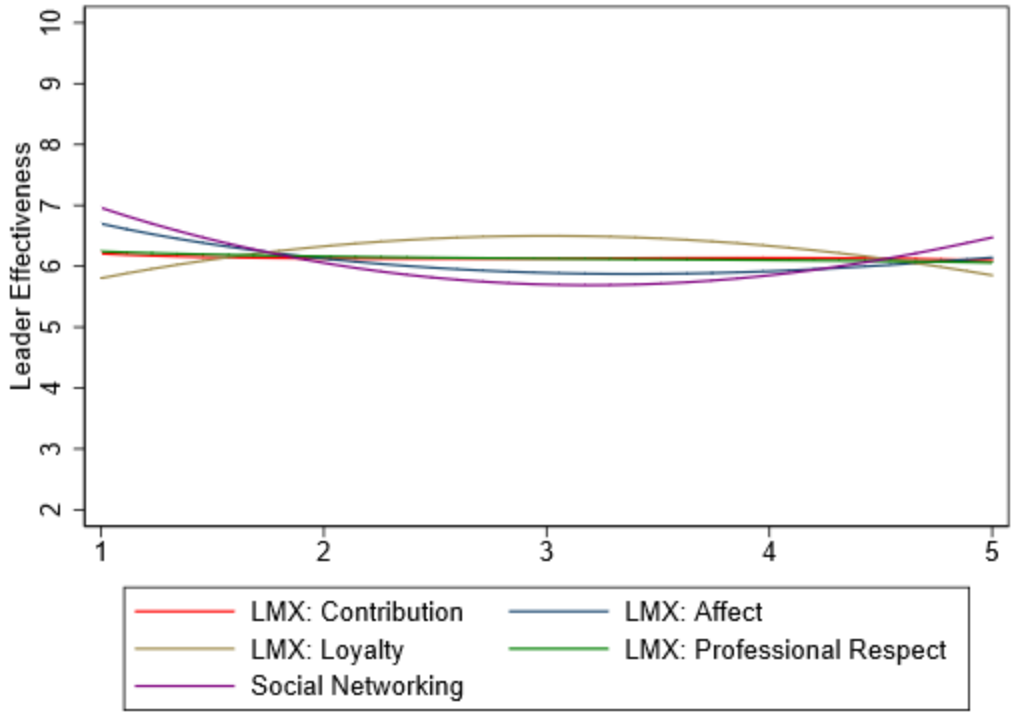


Figure A211.1. Judgment policy by leadership quality for Case 211 based on observed leader-effectiveness scores.

Case 211 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

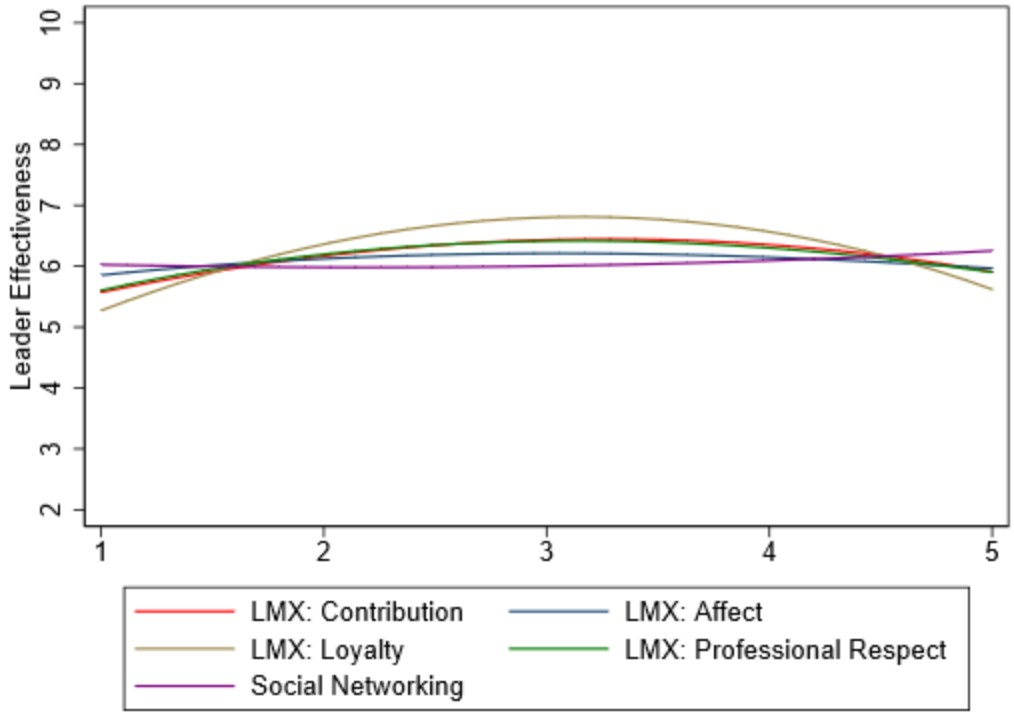


Figure A211.2. Judgment policy by leadership quality for Case 211 based on predicted leader-effectiveness scores from quadric regression.

Table A212.1

Case 212 SJA Quadratic Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	*LL*	*UL*
contribution	0.12	0.92	0.13	.900	-1.78	2.01
contribution2	0.01	0.15	0.05	.958	-0.31	0.33
loyal	-2.09	0.99	-2.12	.044	-4.12	-0.07
loyal2	0.35	0.16	2.20	.037	0.02	0.68
affect	2.12	0.92	2.31	.029	0.23	4.00
affect2	-0.34	0.15	-2.21	.036	-0.66	-0.02
respect	1.73	0.89	1.94	.063	-0.10	3.56
respect2	-0.15	0.15	-1.02	.318	-0.45	0.15
network	0.80	0.96	0.84	.408	-1.16	2.77
network2	-0.11	0.16	-0.69	.494	-0.43	0.21

Note. $F_{(10, 26)} = 40.16$ ($p < .001$), $R^2 = .94$, Adjusted $R^2 = .92$

Table A212.2

Case 212 SJA OLS Regression Results

Leadership quality	*b*	*SE*	*t*	*p*	B
contribution	0.23	0.19	1.25	.220	0.17
loyal	0.14	0.20	0.68	.500	0.09
affect	0.23	0.19	1.20	.238	0.16
respect	0.92	0.18	5.06	.000	0.67
network	0.26	0.20	1.30	.202	0.17

Note. $F_{(5, 31)} = 67.87$ ($p < .001$), $R^2 = .92$, Adjusted $R^2 = .90$

Case 212 Observed Judgment Policy of School Building Leader Effectiveness

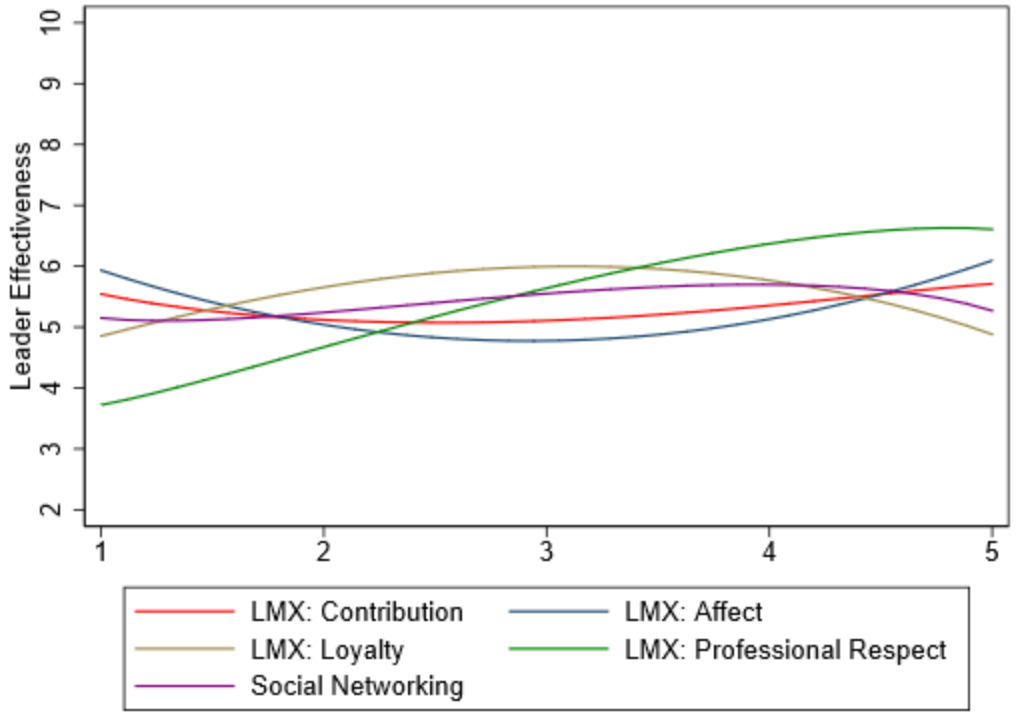


Figure A212.1. Judgment policy by leadership quality for Case 212 based on observed leader-effectiveness scores.

Case 212 Quadratic Regression Predicted Judgment Policy of School Building Leader Effectiveness

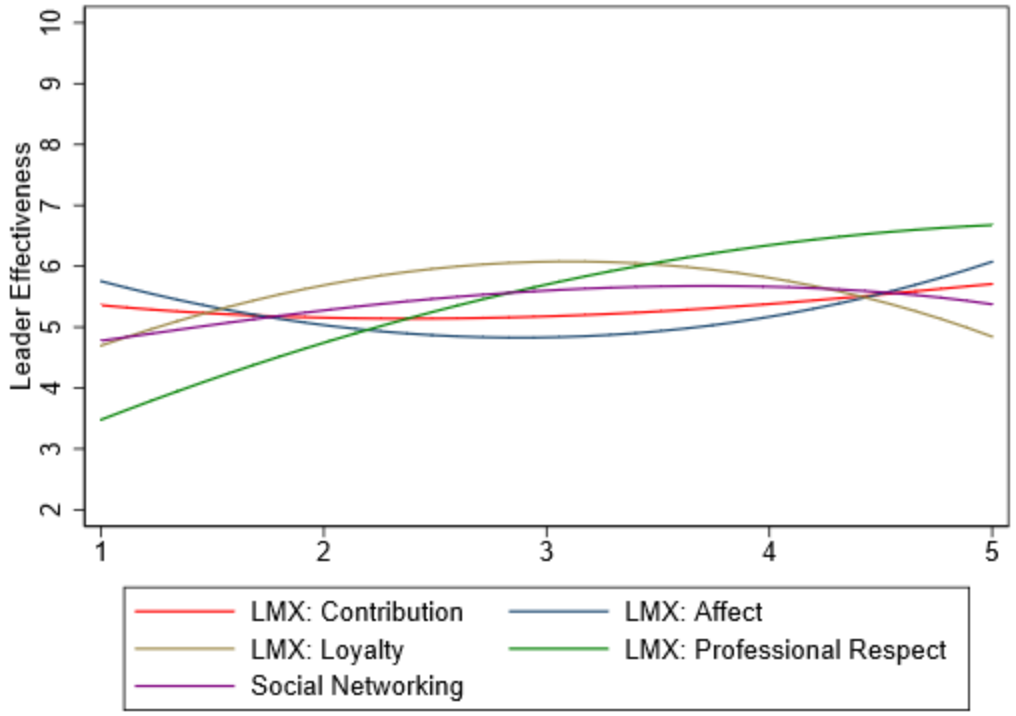
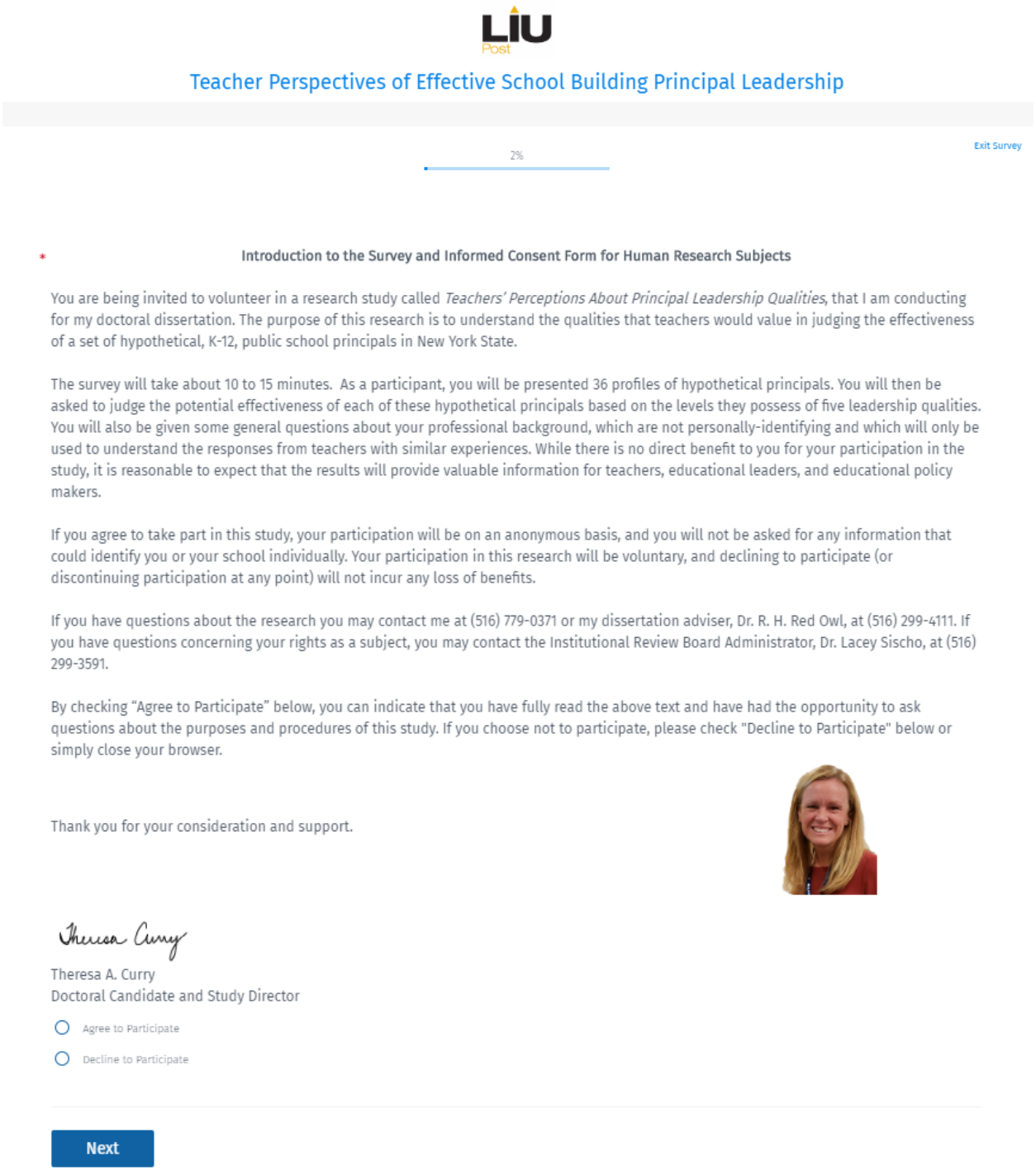


Figure A212.2. Judgment policy by leadership quality for Case 212 based on predicted leader-effectiveness scores from quadric regression.

APPENDIX B

SURVEY

(a) Introduction:



(b) Leadership style cue definitions and preference ranking:

DEFINITIONS USED IN THIS SURVEY

Deserving of My Contributions: A leader who inspires staff to devote their best effort to the work.
Loyal to Me: A leader who protects staff and earns their trust.
Likable: A leader who has charisma and a positive affect, and cultivates personal relationships.
Knowledgeable and Competent: A leader who earns the professional respect and admiration of staff.
Works Beyond Formal Structure and Roles: A leader who works beyond formal boundaries and embraces the informal networks (i.e., naturally emergent social networks) within the school.

* Using the definitions above, please indicate the rank-order of your leadership-style preferences by dragging the characteristic from the left and placing it in the box on the right. The characteristic you place at the top is your highest preference.

Drag your choices here to rank them

- Deserving of My Contribution
- Loyal to Me
- Likable
- Knowledgeable and Competent
- Works Beyond Formal Structures and Roles

(c) Leadership profiles (36 total):

HYPOTHETICAL PRINCIPAL #1

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Just About Average	Below Average	Far Below Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

HYPOTHETICAL PRINCIPAL #2

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Below Average	Just About Average	Below Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #3

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Far Below Average	Far Above Average	Just About Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

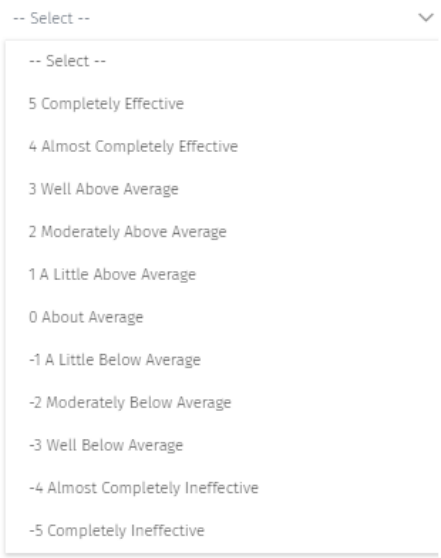
-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #4

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Far Above Average	Above Average	Above Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.



HYPOTHETICAL PRINCIPAL #5

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Above Average	Far Below Average	Far Above Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #6

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Above Average	Below Average	Far Below Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #7

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Far Below Average	Just About Average	Far Below Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #8

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Below Average	Below Average	Below Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #9

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Far Above Average	Just About Average	Below Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #10

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Just About Average	Just About Average	Just About Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #11

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Below Average	Far Above Average	Just About Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #12

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Above Average	Far Below Average	Above Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #13

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Far Below Average	Far Below Average	Far Above Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

HYPOTHETICAL PRINCIPAL #14

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Just About Average	Far Above Average	Far Above Average	Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #15

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Below Average	Far Below Average	Far Below Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #16

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Far Above Average	Far Above Average	Far Below Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #17

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Just About Average	Above Average	Below Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #18

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Far Above Average	Far Below Average	Just About Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #19

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Above Average	Above Average	Just About Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #20

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Far Below Average	Below Average	Above Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #21

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Below Average	Far Above Average	Above Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #22

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Just About Average	Below Average	Far Above Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #23

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Above Average	Just About Average	Far Above Average	Just About Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #24

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Far Above Average	Far Above Average	Far Below Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #25

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Far Below Average	Far Below Average	Below Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #26

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Above Average	Just About Average	Just About Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #27

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Just About Average	Far Below Average	Above Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #28

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Far Above Average	Below Average	Far Above Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #29

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Below Average	Above Average	Far Above Average	Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #30

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Above Average	Just About Average	Far Below Average	Far Below Average	Far Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #31

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Below Average	Far Below Average	Above Average	Far Below Average	Far Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #32

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Above Average	Far Above Average	Below Average	Far Below Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #33

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Above Average	Far Above Average	Far Below Average	Just About Average	Far Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #34

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Below Average	Below Average	Just About Average	Far Above Average

From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

-- Select --
5 Completely Effective
4 Almost Completely Effective
3 Well Above Average
2 Moderately Above Average
1 A Little Above Average
0 About Average
-1 A Little Below Average
-2 Moderately Below Average
-3 Well Below Average
-4 Almost Completely Ineffective
-5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #35

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Far Below Average	Far Above Average	Just About Average	Above Average	Far Above Average

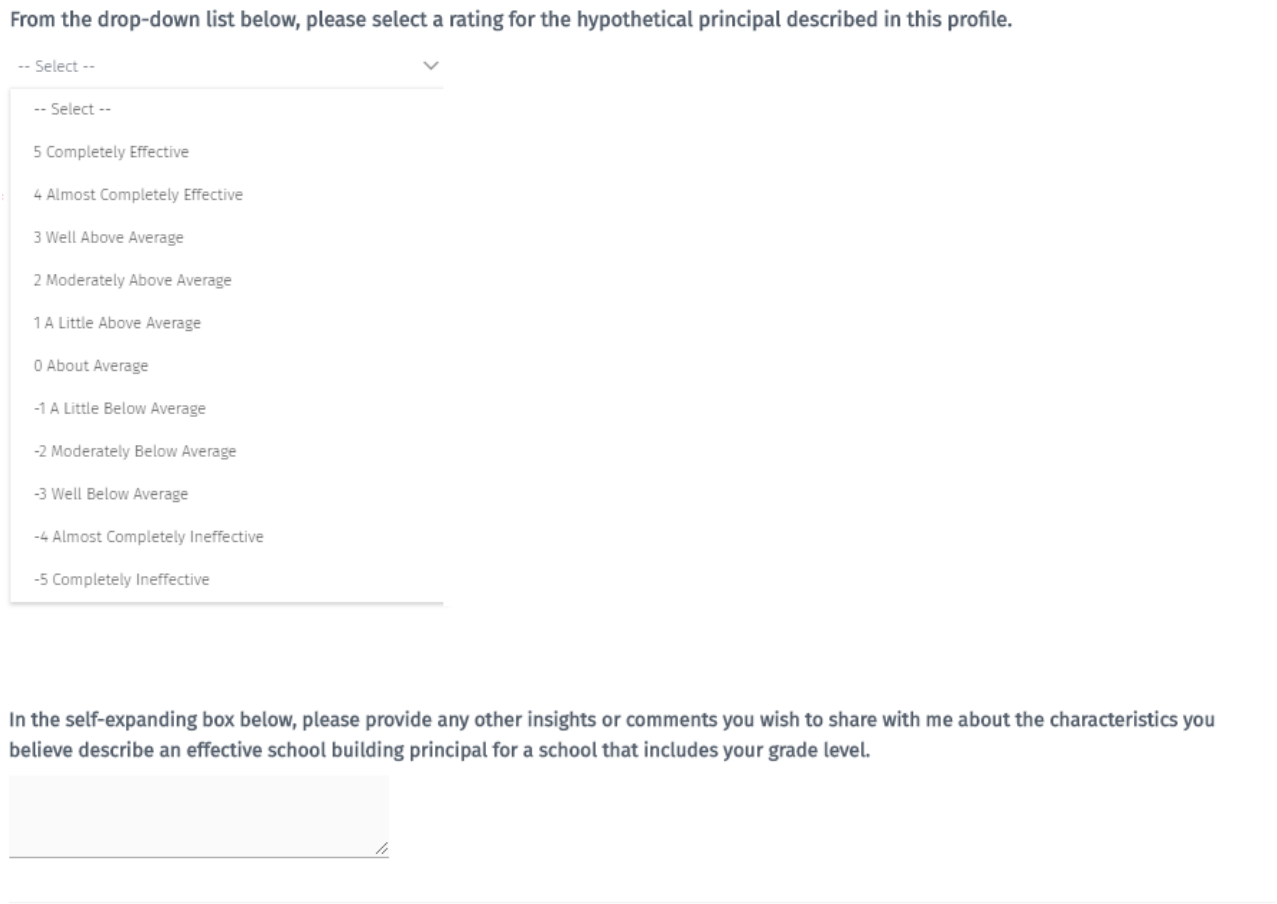
From the drop-down list below, please select a rating for the hypothetical principal described in this profile.

-- Select --

- -- Select --
- 5 Completely Effective
- 4 Almost Completely Effective
- 3 Well Above Average
- 2 Moderately Above Average
- 1 A Little Above Average
- 0 About Average
- -1 A Little Below Average
- -2 Moderately Below Average
- -3 Well Below Average
- -4 Almost Completely Ineffective
- -5 Completely Ineffective

HYPOTHETICAL PRINCIPAL #36

Deserving of My Contribution	Loyal to Me	Likable	Knowledgeable and Competent	Works Beyond the Formal Structure/Roles
Just About Average	Below Average	Just About Average	Far Above Average	Far Above Average



(d) General background questions:

* Teaching Experience: Including this year, how many years of full-time teaching experience have you completed?

* Grade Level: What is the current or most recent grade level you have taught?

-- Select --

* Education: What is your highest completed degree?

- Master's degree(s)
- Master's degree(s) plus additional credits
- Advanced Certificate or Professional Diploma
- Doctoral degree
- Other (Please Specify)

* Administrative Aspiration: Do you hope to secure an administrative school leadership position within the next 5 years?

- Yes
- No
- Not Sure

(e) Thank you and survey submission:

Thank you very much for participating in this survey.
Please be sure to submit your survey by pressing
"Done."

Done

Powered by QuestionPro

APPENDIX C

ONLINE FORUMS AND SOCIAL MEDIA

My doctoral dissertation is designed to give teachers a voice in the determination of effective school building leadership. If you are a current or recent K-12 public school teacher NYS, you are invited to voluntarily and anonymously participate in a **Teachers' Perceptions About Principal Leadership Qualities Survey** @ https://principalleadershipqualities.questionpro.com.

APPENDIX D

Individual Case Narrative Responses

Case	Open-ended narrative response given
3	The ability to be consistent in policy yet empathize with students and staff.
4	A person who builds trust with individuals and promotes it within his/her staff.
5	Being able to stand up to the parents about your decisions and making choices that are best for the students in the long run.
6	Put the kids first!
8	An effective school building principal recognizes that teachers are professionals, and that they may teach multiple grade levels. Special area teachers (phys ed, art, music, technology, library, etc.) are certified teachers and deserve to be treated as such.
15	The quality of a principal can not be summed up easily. You want a blend of the characteristics described above. Someone who is fair and equal in making decisions. Someone who doesn't appear to be too friendly with their staff as some will feel 'left out' and other appear to chummy. A principal should build trust and inspire, each and everyone of them should be compelled to lead as an example. A school principal should be an advocate for children first and foremost. Their reputation is a foundation for how much their staff will lean on them, value them as a partner and seek them out for guidance. Principals need to be out and about, provide meaningful model and set reasonable and clear goals and expectations. If you sit behind your desk, all you will have is people buzzing in your ear and filling it with personal complaints.
20	I feel that when administration appreciates what you do it directly affects your intrinsic motivation. When someone who is compentent, it makes you feel safe and provides a good baseline for the entire school.
21	Multiple years of classroom experience, teaching multiple levels of students, contempaltive, realistic, reasonable, able to weigh a parents desire for their child and the reality of the ability of the student.
22	An administrator must be approachable and someone who is empathatic with staff, students, parents and community. (S)he has to diplomatically give the same message to all. While having a mastery of all content areas may not be realistic, encouraging that mastery in all of your staff is necessary.
24	A principal should support their staff to do their best and encourage them to grow professionally with feedback and reflection. A principal who has a positive rapport with his/her staff, parents and students. Someone who consistently interacts with the students,parents and staff. A principal should be open to suggestions and provide the resources in improving the tone of the building , while implementing new strategies to improve academic achievement among students with all types of learning abilities. A principal should create a safe and supportive school environment for all.
28	Principals who have been teachers in a classroom are more aware and mindful of the struggles teachers go through daily.
30	A principal's daily advocacy for and emotional connection with students is an essential attribute of an effective leader.
31	As a teacher at the high school level, it is important that the principal be transparent with their teachers. It is also necessary to have a leader who is friendly, down to earth and

	approachable. These characteristics encourage teachers to contribute more before, during, and after school hours.
35	Knowledgeable and competent is most important, and in most short supply. Works beyond formal structures--- this plays into school employees being expected to be more dedicated and more available that people in other professions and I don't buy into it. Appearing dedicated is fine, but I don't judge admin by how many basketball games they attend or how many hours they work overall. In fact, I think it's better to know one's role and fit it, not try to work far beyond/outside it. One can also be competent and deserving of contribution without being conventionally 'likable'. Likability is the hobgoblin of all interviews and job hiring. It gets bad people put in positions they should NOT be in.
36	Culturally responsive educator.
37	I think an effective school building principal should have a number of years of classroom experience. They need to be well versed in child psychology and discipline. They should be flexible and ready to move to plan b!
40	The synergy of these aspects is complex but each one is important. A communication of high expectations with trust and support is key.
42	Leaders have to inspire and lead by example
44	I did not feel a Principal should be rated by 'deserving' my contributions. My students deserve my contributions. Also, it was confusing when a characteristic like 'knowledge and competence' was rated 'far below', while 'working beyond traditional structures' was far above. In my experience, principals far below in knowledge and competence are never effective at leveraging their faculty members' skills and competencies, to work beyond traditional structures in effective ways. Usually these types deploy people without real forethought as to what benefit the people they delegate can bring to a school community. Although one might imagine the staff knowledge and competencies can make up for the lack of same on part of the principal, the situation is more likely to frustrate the knowledgeable and competent while creating an illusion of effective practices in a building. In short, there were times I felt that it was hard to respond in genuine ways, to the survey questions. If I were to choose someone to be principal, that person needs to be someone who others perceive as valuing students, their families, and communities, loyal to the staff, so staff are willing to take risks, likeable, so that the person is approachable, willing to thoughtfully delegate outside of traditional structures, and above all, knowledgeable and competent so that staff can feel confident in their leadership. Good luck with your dissertation!
48	An administrate candidate should have experience working in a school as a teacher.
54	Overall competency is very important to me
64	Honestly, knowledge and competence are most important for a principal to be effective. Establishing trust and building relationships or boosting morale are essential. If a teacher doesn't feel valued and cannot be trusted to make professional decisions regarding student learning and/or behavior the principal's knowledge and competence is almost negated. Teachers don't have to like an administrator in order for him/her to be effective, although it does help create a positive school climate when staff likes administration. In my experience, administration that is able to empathize with their staff and support them are most effective. These scenarios were challenging. If they were actual situations (stories) that described the actions of the administrator and teachers involved it would be a little easier. Every situation is different. Thank you for including us in your research. I would

	love to see the outcome of this study. ï¸ •
69	An effective school building principal needs to have the expertise in all areas AND include the staff and be on their side. An effective school building principal needs to be open to suggestions, but also enforce new ways of looking at ideas and concepts. Thank you for being such a highly effective school building administrator!!
74	An administrator would be likeable if one finds the other areas to their liking. When presented with a he said she said situation in the classroom of teacher report versus student report, it often feels as though the teacher side doesn't exist. Usually, what the student says happened is taken as truth. It should be the opposite. Administration should always support teachers. All to often it feels as though administration takes the path of least resistance with parents asking teachers to compromise. If teachers feel and believe they are supported by administration, teachers would be much happier and more productive and the students would benefit. In today's society it is as if students and parents run the schools, not administrators.
76	You have to listen, know your stuff and walk the talk. Teachers work hard and want someone who understands that and provides them resources, time for reflection and PD that makes their work more manageable.
78	It seems clear that when every decision of the principal is driven by what is best for the kids there is the greatest chance for a successful school. Sometimes principals do what the Superintendent wants, do what gets their resume ready for advancement, do what makes the parents happy, or do what keeps the teachers content - none of those are ultimately as effective as being student-centered.
80	I have had many administrators over the years. All but one were technically competent at the day to day administrative tasks which would be expected from any administrator. The 'Leaders' were individuals that inspired others to do their best and were loyal to their teachers. Lack of support from your subordinates will destroy morale and operational effectiveness faster than almost any other reason. In today's educational climate, where the government, press and many, if not most, parents are 'anti-teacher/anti-union', where does any kind of support come from? Other teachers and your administrators. If administrators don't understand this, they will never truly be effective.
83	'People skills' are the #1 most important factor for an effective principal.
85	To truly be an effective school principal you would have stop 'playing the game.' Too often, even the most likable, knowledgeable, etc.. principal is simply trying to survive the system and/or trying to build his/her resume. A true leader would place education above all else and he/she would not allow the frivolous interferences that we experience yearly. You want to know why test scores aren't where they would like them, because our children are not in school anymore. While there is still teaching and learning that goes on, there is not enough of it.
87	Leaders must be able to win the respect of their staff. You don;t have to be likeable in certain terms, but you should be able to motivate your staff and make them WANT to perform for you and like to come to work. Happy teachers equals happy kids. You don't need content knowledge, just to be a leader. Leaders inspire their people.

90	I believe a highly effective leader needs to support teachers and understand what they do in the classroom. Visibility is huge. Being in an office does not help the staff feel connected. Being likable is nice but not a deal breaker. Teachers do not have to be friends with their leadership they just need to feel that their voices are being heard, their students are valued, their work is appreciated and their needs are supported.
91	I think too many principals worry about being likable to their students and staff. Often, this is confused with being overly friendly and lenient. I believe a highly effective administrator is likable by being fair and consistent with expectations. I value someone who is going to do their job well over someone who would be fun to go out with after work.
102	There should be no favoritism toward more popular people or males.
104	Above all, I think a good principal needs to have a relationship with the students and advocate for their best interest. An effective principal does not simply cater to parents' wishes and is a visible presence in the school. Secondly a principal should support the staff and listen to their needs. I find it hard to distinguish 'likable' from 'loyal to me' and 'deserving of my contribution' since one depends on the other. Again, how a principal is to me, personally, is secondary in importance to how the principal is with the students. Good luck to you!
105	Honest, Compassionate,
106	People person who can adhere to discipline guidelines and be fair to students and staff. Someone who is dedicated to the school and who is visible to the school community.
108	Of course knowledge and competence is important. Without loyalty,likability and interest in what I have to say I don't think many teachers would get up excited to teach another day.
109	Someone who 'gets it'.
110	Good communicator, honest, caring for staff and students
111	strong communication skills, approachability, sense of respect in both directions, someone who has my back, highly inspritational that is what I am looking for in a leader, No negative talkers or gossipers or plays favorites.
112	We need administration that follows the rules, with no gray areas. Loyal to their teachers, support them before they appease an upset parent. They need to run a well put together faculty meeting and workshops. If they are rating me as a teacher they should have been a good teacher to start with. Never forget what teachers go through each and every day in the classroom. Inspire their workers and be understanding if a problem arises. Do not just make a parent happy before supporting a teacher that works for them for 30 years. Teachers are doing their best to teach the youth of this nation and this job is not easy. Be loyal to your workers!
114	'Knowledgeable and Competent' far below average instantly earned the hypothetical principal a -5 rating. 'Loyal to Me' below average was also an indicator of an ineffective principal. Beyond those to criteria, there was a sharp dropoff as to qualities good principals have. 'Likeable' is just stupid. A professional should be able to work with AND respect an administrator whether they like them or not. People who have the 'Likeable' criterion ranked First or Second probably shouldn't be teachers.

115	I believe at the high school level it is most important for a building principal to listen and support his/her staff by implementing thoughtful, well-researched policies. In a time where parents have become over-bearing it is important for a principal to be seen as decisive and strong in support of their educators.
116	An individual who is direct, well- spoken and an empathetic individual knowledgeable of a variety of academic offering across a broad academic spectrum. Intrinsic qualities of an effective leader.
119	I know this is not what you are asking, but I see an issue with this survey, namely that most teachers teach more than one grade level at a time, including teaching across buildings which could impact their views. I think many of the qualities being discussed are so deeply interwoven that it is very difficult to address them individually. For example, a principle who is supportive, loyal, and protects his or her staff is one that will inspire more teachers to put in their best effort and will be more likable. Also, a principal who earns my respect is probably someone who will inspire me to work hard. A principal or colleague who in incompetent is not going to be likable to me, and I won't be inspired by them to work harder. I found it very difficult to address these categories individually.
123	Likable is not as important if you have a loyal and knowledgeable principal who positively inspires the teachers and staff to work hard. Likable is over-rated. Do your job. Make the schools a safe place for teachers to do their jobs and to do them well. We need leaders, not buddies, and definitely not disloyal fake 'friends.' Unfortunately most administrators leave the classroom because they are unable to handle the challenge, the work, and lack the inability to make key relationships to benefit the students. Most of them also have an over-inflated perception of their own effectiveness.
125	One that remains neutral and professional not showing favoritisms among staff...one who shows they value staff and the advancement of staff without their own labeling of staff/limiting growth opportunities for staff.
130	I teach music grades 9-12. I think communication is one of the most important traits for leadership. When leaders are able to communicate their intent, they are more likely to get away with actions that are perceived to be uninspiring, un-loyal, unlikeable, un-knowledgeable, or non-forward thinking. The strongest leaders I've had in education are the ones that are able to effectively communicate intent (no matter how uncomfortable) to faculty, staff, students, and parents. The leaders that avoid communication due to any number of circumstances (unpleasantness of the situation, delivery of bad news, 'slipped my mind', etc) tend to run into more issues because the lack of communication allows for issues to persist or lay in the background. Thank you for sharing this thoughtful measuring tool
137	Person needs to get to know the teachers and respect them as dedicated professionals who are experts in their field. Person needs to know how to LISTEN. To show appreciation and recognize expertise when they see it.
140	communication skills, knowledge, responsiveness to professionals. Innovative and responsive towards students
142	A building principal who is knowledgeable of current methods in education and finds a way to share that knowledge with teachers. A principal who puts teachers above parents. A principal who ensures there is equity among the staff.

145	Loyalty and respect are important qualities in an administrator. Once that trust is broken, the administrator will always be distrusted. Teachers pass down stories to newbies -- the administrator's reputation will always be tainted -- even when the person tries to make amends or change his/her ways. It is hard to fix a bad reputation. If an administrator rules with fear or with retribution, even if it was towards just one faculty member, that administrator will always be known for that, and the teacher on the receiving end of the principal's tirade will be spoken of reverently, amongst the faculty and staff, as if that teacher had tangled with the dragon and lived to tell the tale.
146	The school principal should be very knowledgeable, approachable, accessible, caring, a very good listener, a role model, someone who inspires members of all constituency groups, a team builder, a unifier, a collaborator, supportive, placed high value on community, decisive, open to feedback, visible and an integral part of the school community.
149	While it is important that a principal can form professional relationships with his/her staff members, it is important that they earn the respect of their staff by being knowledgeable about curriculum and programs that will drive the success of students. In addition, the principal is a leader that values to the professional views and experience of teachers and takes that into consideration when making decisions. It is important for principals to cultivate relationships with parents, but should advocate for their teachers and their practices.
151	It really doesn't matter what a Principal brings to the position, if they are not protective to the staff they are useless.
154	I believe a good principal has certain characteristics. A principal should be direct and logical with decisions, whether disciplinary actions with a student or staffing directives. A principal should be able to take constructive criticism well. A principal should be able to listen to a suggestion, although not all suggestions should be implemented. A principal needs to cultivate positive relationships with students, and needs students to feel that he/she is equitable.
156	An effective principal 'leads with a banner rather than follows with a whip'. The staff should believe that the principal is on their side. An effective principal treats all staff equitably.
157	One that will listen to teachers
160	An effective school principal must have knowledge of ALL curriculum in the building... they must have extensive classsroom experience to fully understand what occurs in the classroom.. Knowledgeable and competent has to be the foundation for the other things to have any impact..
161	He or she must have extensive and varied classroom experience.
163	Just a note - for grade level many teachers teach multiple grades. I believe that Principals must be competent instructional leaders. That matters more to me that personality. Good principals support their staff and trust them when they prove themselves. Good principals don't micromanage and respect teachers' expertise in their subject areas.
165	I think that one think that gets lost in the shuffle is the difficulty in managing human beings; especially ones that are diverse, different and unique.
166	The greatest quality of a leader is being flexible with pedagogy...one approach to learning is very stifling.

169	Someone who actually understands the school climate and works to creat a family... including, students, parents, teachers, social workers, office staff, support staff, psychologists, security and maintenance and cafeteria staff, instead of using a divide and conquer technique that will quickly turn against them. Also following the district code of conduct instead of hiding situations to make oneself look capable. Eventually all that comes out In the end.
171	Honesty, being accessible, allows teacher freedom and supports risk taking, does not cave into unreasonable parent pressure
172	knowledgeable open minded movable able to communicate and listen
173	Flexible, able to operate comfortably in the grey area, accepts criticism, positive personality, trusts the teacher's knowledge and practice, supportive, expansive thinker... I could go on and on.
175	I think a principal has to model the skills you expect to teach the students. If you cannot work with the staff engendering trust and 'all in' attitudes, you are a failure to be tolerated until you move on.
180	I feel that to be an effective school building principal, the person should be average or above average in all categories that you have listed. They should be able to inspire their staff as well as be there for the staff to come to if there is a problem.
181	Someone who leads by example.
182	They need to be loyal mostly and knowledgeable. I feel your colleagues can inspire you and that it isn't the most important thing for a principal.
185	While I believe it is important for a principal to cultivate a culture of friendliness to staff, that said principal should not form friendships outside of school with select teachers as that could be construed as playing favorites with certain staff. Principals/administrators also need more years of teaching experience than the 3 years that many administrative programs require. I see many young teachers going for administrative jobs too soon into their careers.
189	A person with with at least 10 years teaching experience. Too many administrators do not spend enough time in the class room. It is hard to be an effective leader if you seemed more interested in moving up the ladder than improving your craft in the classroom.
194	An effective school building principal is a good listener and gets input from staff before rushing to make a decision.
195	Taking this survey makes me wish we had more (or any, really) control in shopping for an administrator. It makes me sad for what could be possible, but we have not had in decades.
200	An effective school building principal should be knowledgeable about his or her staff, he or she should be fair, committed, intelligent, compassionate, and trustworthy. He or she should also care about the building, the students, and the staff, and not just be there for a paycheck.
208	I think that the most important qualities in a leader are that they inspire me to try harder, that they are not stressful to be around, that they are willing to go to bat for me if I need them, and that they know their stuff. If they know what they're talking about and are fair, it is forgivable if their demeanor isn't quite up to par. I don't really have a preference for working with a formal or informal structure.
211	Puts students first, approachable, kind, knows the community, likes teaching, tells good stories/jokes.

212	An effective school principal must have the knowledge and compassion when dealing with the staff.